Dell 5535dn
Service Manual

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Notices and safety information

The following laser notice labels may be affixed to this printer.

Laser notice

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for Class I (1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC 60825-1.

Class I laser products are not considered to be hazardous. The printer contains internally a Class IIIb (3b) laser that is nominally a 5 milliwatt gallium arsenide laser operating in the wavelength region of 770-795 nanometers. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Laser

Der Drucker erfüllt gemäß amtlicher Bestätigung der USA die Anforderungen der Bestimmung DHHS (Department of Health and Human Services) 21 CFR Teil J für Laserprodukte der Klasse I (1). In anderen Ländern gilt der Drucker als Laserprodukt der Klasse I, der die Anforderungen der IEC (International Electrotechnical Commission) 60825-1 gemäß amtlicher Bestätigung erfüllt.

Laserprodukte der Klasse I gelten als unschädlich. Im Inneren des Druckers befindet sich ein Laser der Klasse IIIb (3b), bei dem es sich um einen Galliumarsenlaser mit 5 Milliwatt handelt, der Wellen der Länge 770-795 Nanometer ausstrahlt. Das Lasersystem und der Drucker sind so konzipiert, daß im Normalbetrieb, bei der Wartung durch den Benutzer oder bei ordnungsgemäßer Wartung durch den Kundendienst Laserbestrahlung, die Klasse I übersteigen würde, Menschen keinesfalls erreicht.

Avis relatif à l’utilisation de laser

Pour les Etats-Unis : cette imprimante est certifiée conforme aux provisions DHHS 21 CFR alinéa J concernant les produits laser de Classe I (1). Pour les autres pays : cette imprimante répond aux normes IEC 60825-1 relatives aux produits laser de Classe I.

Les produits laser de Classe I sont considérés comme des produits non dangereux. Cette imprimante est équipée d’un laser de Classe IIIb (3b) (arséniure de gallium d’une puissance nominale de 5 milliwatts) émettant sur des longueurs d’onde comprises entre 770 et 795 nanomètres. L’imprimante et son système laser sont conçus pour impossible, dans des conditions normales d’utilisation, d’entretien par l’utilisateur ou de révision, l’exposition à des rayonnements laser supérieurs à des rayonnements de Classe I .

Avvertenze sui prodotti laser

Questa stampante è certificata negli Stati Uniti per essere conforme ai requisiti del DHHS 21 CFR Sottocapitolo J per i prodotti laser di classe 1 ed è certificata negli altri Paesi come prodotto laser di classe 1 conforme ai requisiti della norma CEI 60825-1.

I prodotti laser di classe non sono considerati pericolosi. La stampante contiene al suo interno un laser di classe IIIb (3b) all’arseniuro di gallio della potenza di 5mW che opera sulla lunghezza d’onda compresa tra 770 e 795 nanometri. Il sistema laser e la stampante sono stati progettati in modo tale che le persone a contatto con la stampante, durante il normale funzionamento, le operazioni di servizio o quelle di assistenza tecnica, non ricevano radiazioni laser superiori al livello della classe 1.

Avisos sobre el láser

Se certifica que, en los EE.UU., esta impresora cumple los requisitos para los productos láser de Clase I (1) establecidos en el subcapítulo J de la norma CFR 21 del DHHS (Departamento de Sanidad y Servicios) y, en los demás países, reúne todas las condiciones expuestas en la norma IEC 60825-1 para productos láser de Clase I (1).

Los productos láser de Clase I no se consideran peligrosos. La impresora contiene en su interior un láser de Clase IIIb (3b) de arseniuro de galio de funcionamiento nominal a 5 milivatios en una longitud de onda de 770 a 795 nanómetros. El sistema láser y la impresora están diseñados de forma que ninguna persona pueda verse afectada por ningún tipo de radiación láser superior al nivel de la Clase I durante su uso normal, el mantenimiento realizado por el usuario o cualquier otra situación de servicio técnico.

Declaração sobre Laser

A impressora está certificada nos E.U.A. em conformidade com os requisitos da regulamentação DHHS 21 CFR Subcapítulo J para a Classe I (1) de produtos laser. Em outros locais, está certificada como um produto laser da Classe I, em conformidade com os requisitos da norma IEC 60825-1.

Os produtos laser da Classe I não são considerados perigosos. Internamente, a impressora contém um produto laser da Classe IIIb (3b), designado laser de arseneto de potássio, de 5 milliwatts ,operando numa faixa de comprimento de onda entre 770 e 795 nanómetros. O sistema e a impressora laser foram concebidos de forma a nunca existir qualquer possiblidade de acesso humano a radiação laser superior a um nível de Classe I durante a operação normal, a manutenção feita pelo utilizador ou condições de assistência prescritas.

Laserinformatie

De printer voldoet aan de eisen die gesteld worden aan een laserprodukt van klasse I. Voor de Verenigde Staten zijn deze eisen vastgelegd in DHHS 21 CFR Subchapter J, voor andere landen in IEC 60825-1.

Laserprodukten van klasse I worden niet als ongevaarlijk aangemerkt. De printer is voorzien van een laser van klasse IIIb (3b), dat wil zeggen een gallium arsenide-laser van 5 milliwatt met een golflengte van 770-795 nanometer. Het lasergedeelte en de printer zijn zo ontworpen dat bij normaal gebruik, bij onderhoud of reparatie conform de voorschriften, nooit blootstelling mogelijk is aan laserstraling boven een niveau zoals voorgeschreven is voor klasse 1.

Lasermeddelelse

Printeren er godkendt som et Klasse I-laserprodukt, i overenstemmelse med kravene i IEC 60825-1.

Klasse I-laserprodukter betragtes ikke som farlige. Printeren indeholder internt en Klasse IIIB (3b)-laser, der nominelt er en 5 milliwatt galliumarsenid laser, som arbejder på bølgelængdeområdet 770-795 nanometer. Lasersystemet og printeren er udformet således, at mennesker aldrig udsættes for en laserstråling over Klasse I-niveau ved normal drift, brugervedligeholdelse eller obligatoriske servicebetingelser.

Laserilmoitus

Tämä tulostin on sertifioitu Yhdysvalloissa DHHS 21 CFR Subchapter J -standardin mukaiseksi luokan I (1) -lasertuotteeksi ja muualla IEC 60825-1 -standardin mukaiseksi luokan I lasertuotteeksi.

Luokan I lasertuotteita ei pidetä haitallisina. Tulostimen sisällä on luokan IIIb (3b) laser, joka on nimellisteholtaan 5 mW:n galliumarsenidilaser ja toimii 770 - 795 nanometrin aallonpituuksilla. Laserjärjestelmä ja tulostin ovat rakenteeltaan sellaisia, että käyttäjä ei joudu alttiiksi luokkaa 1 suuremmalle säteilylle normaalin käytön, ylläpidon tai huollon aikana.

Huomautus laserlaitteesta

Tämä kirjoitin on Yhdysvalloissa luokan I (1) laserlaitteiden DHHS 21 CFR Subchapter J -määrityksen mukainen ja muualla luokan I laserlaitteiden IEC 60825-1 -määrityksen mukainen.

Luokan I laserlaitteiden ei katsota olevan vaarallisia käyttäjälle. Kirjoittimessa on sisäinen luokan IIIb (3b) 5 milliwatin galliumarsenidilaser, joka toimii aaltoalueella 770 - 795 nanometriä. Laserjärjestelmä ja kirjoitin on suunniteltu siten, että käyttäjä ei altistu luokan I määrityksiä voimakkaammalle säteilylle kirjoittimen normaalin toiminnan, käyttäjän tekemien huoltotoimien tai muiden huoltotoimien yhteydessä.

VARO! Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

VARNING! Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

Laser-notis

Denna skrivare är i USA certifierad att motsvara kraven i DHHS 21 CFR, underparagraf J för laserprodukter av Klass I (1). I andra länder uppfyller skrivaren kraven för laserprodukter av Klass I enligt kraven i IEC 60825-1.

Laserprodukter i Klass I anses ej hälsovådliga. Skrivaren har en inbyggd laser av Klass IIIb (3b) som består av en laserenhet av gallium-arsenid på 5 milliwatt som arbetar i våglängdsområdet 770-795 nanometer. Lasersystemet och skrivaren är utformade så att det aldrig finns risk för att någon person utsätts för laserstrålning över Klass I-nivå vid normal användning, underhåll som utförs av användaren eller annan föreskriven serviceåtgärd.

Laser-melding

Skriveren er godkjent i USA etter kravene i DHHS 21 CFR, underkapittel J, for klasse I (1) laserprodukter, og er i andre land godkjent som et Klasse I-laserprodukt i samsvar med kravene i IEC 60825-1.

Klasse I-laserprodukter er ikke å betrakte som farlige. Skriveren inneholder internt en klasse IIIb (3b)-laser, som består av en gallium-arsenlaserenhet som avgir stråling i bølgelengdeområdet 770-795 nanometer. Lasersystemet og skriveren er utformet slik at personer aldri utsettes for laserstråling ut over klasse I-nivå under vanlig bruk, vedlikehold som utføres av brukeren, eller foreskrevne serviceoperasjoner.

Avís sobre el Làser

Segons ha estat certificat als Estats Units, aquesta impressora compleix els requisits de DHHS 21 CFR, apartat J, pels productes làser de classe I (1), i segons ha estat certificat en altres llocs, és un producte làser de classe I que compleix els requisits d'IEC 60825-1.

Els productes làser de classe I no es consideren perillosos. Aquesta impressora conté un làser de classe IIIb (3b) d'arseniür de gal.li, nominalment de 5 mil.liwats, i funciona a la regió de longitud d'ona de 770-795 nanòmetres. El sistema làser i la impressora han sigut concebuts de manera que mai hi hagi exposició a la radiació làser per sobre d'un nivell de classe I durant una operació normal, durant les tasques de manteniment d'usuari ni durant els serveis que satisfacin les condicions prescrites.

レーザーに関するお知らせ

このプリンターは、米国ではＤＨＨＳ ２１ ＣＦＲサブチャプターＪのクラスＩ（１）の基準を満たしたレーザー製品であることが証明されています。また米国以外ではＩＥＣ ８２５の基準を満たしたクラスＩのレーザー製品であることが証明されています。

クラスＩのレーザー製品には危険性はないと考えられています。このプリンターはクラスⅢｂ（３ｂ）のレーザーを内蔵しています。このレーザーは、波長が７７０ ～ ７９５ナノメーターの範囲で、通常５ミリワットのガリウム砒化物を放射するレーザーです。このレーザーシステムとプリンターは、通常の操作、ユーザのメンテナンス、規定された修理においては、人体がクラスＩのレベル以上のレーザー放射に晒されることのないよう設計されています。

注意：

本打印机被美国认证合乎 DHHS 21 CFR Subchapter I 对分类 I (1) 激光产品的标准，而在其他地区则被认证合乎 IEC 825 的标准。

分类 I 激光产品一般认为不具危险性，本打印机内部含有分类 IIIb (3b) 的激光，在操作过程中会产生 5 毫瓦含镓及砷的微量激光，其波长范围在 770-795 nm 之间。本激光系统及打印机的设计，在一般操作、使用者维护或规定内的维修情况下，不会使人体接触分类 I 以上等级的辐射。

본프린터는 1등급 레이저 제품들에 대한 DHHS 21 CFR Subchapter 3의 규정을 준수하고 있음을 미국에서 인증받았으며, 그외의 나라에서도 IEC 825 규정을 준수하는 1등급 레이저 제품으로서 인증을 받았습니다.

1등급 레이저 제품들은 안전한 것으로 간주됩니다. 본 프린터는 5 밀리와트 갤륨 아르세나이드 레이저로서 770-795 나노미터의 파장대에서 활동하는 Class III (3b) 레이저를 내부에 갖고 있습니다. 본 레이저 시스템과 프린터는 정상 작동 중이나 유지 보수 중 또는 규정된 서비스 상태에서 상기의 Class I 수준의 레이저 방출에 사람이 절대 접근할 수 없도록 설계되어 있습니다.

Lithium warning

CAUTION

This product contains a lithium battery. THERE IS A RISK OF EXPLOSION IF THE BATTERY IS REPLACED BY AN INCORRECT TYPE. Discard used batteries according to the battery manufacturer's instructions and local regulations.

Safety information

- The safety of this product is based on testing and approvals of the original design and specific components. The manufacturer is not responsible for safety in the event of use of unauthorized replacement parts.
- The maintenance information for this product has been prepared for use by a professional service person and is not intended to be used by others.
- There may be an increased risk of electric shock and personal injury during disassembly and servicing of this product. Professional service personnel should understand this and take necessary precautions.
- **CAUTION:** When you see this symbol, there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.

Consignes de sécurité

- La sécurité de ce produit repose sur des tests et des agréations portant sur sa conception d'origine et sur des composants particuliers. Le fabricant n'assume aucune responsabilité concernant la sécurité en cas d'utilisation de pièces de rechange non agréées.
- Les consignes d'entretien et de réparation de ce produit s'adressent uniquement à un personnel de maintenance qualifié.
- Le démontage et l'entretien de ce produit pouvant présenter certains risques électriques, le personnel d'entretien qualifié devra prendre toutes les précautions nécessaires.
- **ATTENTION :** Ce symbole indique la présence d'une tension dangereuse dans la partie du produit sur laquelle vous travaillez. Débranchez le produit avant de commencer ou faites preuve de vigilance si l'exécution de la tâche exige que le produit reste sous tension.

Norme di sicurezza

- La sicurezza del prodotto si basa sui test e sull'approvazione del progetto originale e dei componenti specifici. Il produttore non è responsabile per la sicurezza in caso di sostituzione non autorizzata delle parti.
- Le informazioni riguardanti la manutenzione di questo prodotto sono indirizzate soltanto al personale di assistenza autorizzato.
- Durante lo smontaggio e la manutenzione di questo prodotto, il rischio di subire scosse elettriche e danni alla persona è più elevato. Il personale di assistenza autorizzato deve, quindi, adottare le precauzioni necessarie.
- **ATTENZIONE:** Questo simbolo indica la presenza di tensione pericolosa nell'area del prodotto. Scollegare il prodotto prima di iniziare o usare cautela se il prodotto deve essere alimentato per eseguire l'intervento.

Sicherheitshinweise

- Die Sicherheit dieses Produkts basiert auf Tests und Zulassungen des ursprünglichen Modells und bestimmter Bauteile. Bei Verwendung nicht genehmigter Ersatzteile wird vom Hersteller keine Verantwortung oder Haftung für die Sicherheit übernommen.
- Die Wartungsinformationen für dieses Produkt sind ausschließlich für die Verwendung durch einen Wartungsfachmann bestimmt.
- Während des Auseinandernehmens und der Wartung des Geräts besteht ein zusätzliches Risiko eines elektrischen Schlags und körperlicher Verletzung. Das zuständige Fachpersonal sollte entsprechende Vorsichtsmaßnahmen treffen.
- **ACHTUNG:** Dieses Symbol weist auf eine gefährliche elektrische Spannung hin, die in diesem Bereich des Produkts auftreten kann. Ziehen Sie vor den Arbeiten am Gerät den Netzstecker des Geräts, bzw. arbeiten Sie mit großer Vorsicht, wenn das Produkt für die Ausführung der Arbeiten an den Strom angeschlossen sein muß.

Pautas de Seguridad

- La seguridad de este producto se basa en pruebas y aprobaciones del diseño original y componentes específicos. El fabricante no es responsable de la seguridad en caso de uso de piezas de repuesto no autorizadas.
- La información sobre el mantenimiento de este producto está dirigida exclusivamente al personal cualificado de mantenimiento.
- Existe mayor riesgo de descarga eléctrica y de daños personales durante el desmontaje y la reparación de la máquina. El personal cualificado debe ser consciente de este peligro y tomar las precauciones necesarias.
- **PRECAUCIÓN:** este símbolo indica que el voltaje de la parte del equipo con la que está trabajando es peligroso. Antes de empezar, desenchufe el equipo o tenga cuidado si, para trabajar con él, debe conectarlo.

Informações de Segurança

- A segurança deste produto baseia-se em testes e aprovações do modelo original e de componentes específicos. O fabricante não é responsável pela segunrança, no caso de uso de peças de substituição não autorizadas.
- As informações de segurança relativas a este produto destinam-se a profissionais destes serviços e não devem ser utilizadas por outras pessoas.
- Risco de choques eléctricos e ferimentos graves durante a desmontagem e manutenção deste produto. Os profissionais destes serviços devem estar avisados deste facto e tomar os cuidados necessários.
- **CUIDADO:** Quando vir este símbolo, existe a possível presença de uma potencial tensão perigosa na zona do produto em que está a trabalhar. Antes de começar, desligue o produto da tomada eléctrica ou seja cuidadoso caso o produto tenha de estar ligado à corrente eléctrica para realizar a tarefa necessária.

Informació de Seguretat

- La seguretat d'aquest producte es basa en l'avaluació i aprovació del disseny original i els components específics.
  El fabricant no es fa responsable de les qüestions de
  seguretat si s'utilitzen peces de recanvi no autoritzades.
- La informació pel manteniment d'aquest producte està orientada exclusivament a professionals i no està destinada
  a ningú que no ho sigui.
- El risc de xoc elèctric i de danys personals pot augmentar durant el procés de desmuntatge i de servei d'aquest producte. El personal professional ha d'estar-ne assabentat i prendre
  les mesures convenients.
-
  PRECAUCIÓ: aquest símbol indica que el voltatge de la part de l'equip amb la qual esteu treballant és perillós. Abans de començar, desendolleu l'equip o extremeu les precaucions si, per treballar amb l'equip, l'heu de connectar.

안전 사항

- 본 제품은 원래 설계 및 특정 구성품에 대한 테스트 결과로 안정성이 입증된 것입니다. 따라서 무허가 교체부품을 사용하는 경우에는 제조업체에서 안전에 대한 책임을 지지 않습니다.
- 본 제품에 관한 유지 보수 설명서는 전문 서비스 기술자 용으로 작성된 것이므로, 비 전문가는 사용할 수 없습니다.
- 본 제품을 해체하거나 정비할 경우, 전기적인 충격을 받거나 상처를 입을 위험이 커집니다. 전문 서비스 기술자는 이 사실을 숙지하고, 필요한 예방 조치를 취하도록 하십시오.
-
  주의: 이 표시는 해당영역에서 고압전류가 흐른다는 위험 표시 입니다. 시작전에 플러그를 뽑으시거나, 주의를 기울여 주시기 바랍니다.

安全信息

- 本产品的安全性以原来设计和特定产品的测试结果和认证为基础。万一使用未经许可的替换部件，制造商不对安全性负责。
- 本产品的维护信息仅供专业服务人员使用，并不打算让其他人使用。
- 本产品在拆卸、维修时，遭受电击或人员受伤的危险性会增高，专业服务人员对这点必须有所了解，并采取必要的预防措施。
-
  切记：当您看到此符号时，说明在您工作的产品区域有危险电压的存在。请在开始操作前拔掉产品的电源线，或者在产品必须使用电源来执行任务时，小心从事。

Preface

This manual contains maintenance procedures for service personnel. It is divided into the following chapters:

1. **General information** contains a general description of the printer and the maintenance approach used to repair it. Special tools and test equipment, as well as general environmental and safety instructions, are discussed.
2. **Diagnostic information** contains an error indicator table, symptom tables, and service checks used to isolate failing field replaceable units (FRUs).
3. **Diagnostic aids** contains tests and checks used to locate or repeat symptoms of printer problems.
4. **Repair information** provides instructions for making printer adjustments and removing and installing FRUs.
5. **Connector locations** uses illustrations to identify the connector locations and test points on the printer.
6. **Preventive maintenance** contains the lubrication specifications and recommendations to prevent problems.
7. **Parts catalog** contains illustrations and part numbers for individual FRUs.
   Appendix A contains service tips and information.
   Appendix B contains representative print samples.

Conventions

Note: A note provides additional information.

Warning: A warning identifies something that might damage the product hardware or software.

There are several types of caution statements:

CAUTION

A caution identifies something that might cause a servicer harm.

CAUTION

This type of caution indicates there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.

CAUTION

This type of caution indicates a hot surface.

CAUTION

This type of caution indicates a tipping hazard.

1. General information

The Dell™ 5535dn printer is an All-In-One laser multi-functional printer (MFP) that provides print, copy, scan, and fax functions designed to attach to most computer networks. The operator panel is touch-sensitive and allows the user to adjust the viewing angle.

The following table shows the features available in the Dell 5535dn printer.

Machine type	MFG Model/ Dell Model	Description					
		AIO	Simplex ADF	Duplex ADF	Duplex printer	Modem	Hard drive
7462-031	X651de	x	x		x		
7462-035	X652de/ 5535dn	x	x		x	x	
7462-0A1	X654de	x		x	x		
7462-0A5	X656dte	x		x	x	x	
7462-231	X654de	x		x	x		
7462-232	X654de	x		x	x	x	
7462-235	X656dte	x		x	x		x
7462-236	X656dte	x		x	x	x	x
7462-2A1	X654de	x		x	x		
7462-2A2	X654de	x		x	x	x	
7462-2A5	X656dte	x		x	x		x
7462-2A6	X656dte	x		x	x	x	x
7462-432	X658de	x		x	x		x
7462-436	X658de	x		x	x	x	x
7462-4A2	X658de	x		x	x		x
7462-4A6	X658de	x		x	x	x	x

Maintenance approach

The diagnostic information in this manual leads you to the correct field replaceable unit (FRU) or part. Use the service error codes, user status messages, user error messages, service checks, and diagnostic aids to determine the MPF problem and repair the failure. After you complete the repair, perform tests as needed to verify the repair. See **“Start” on page 2-1**.

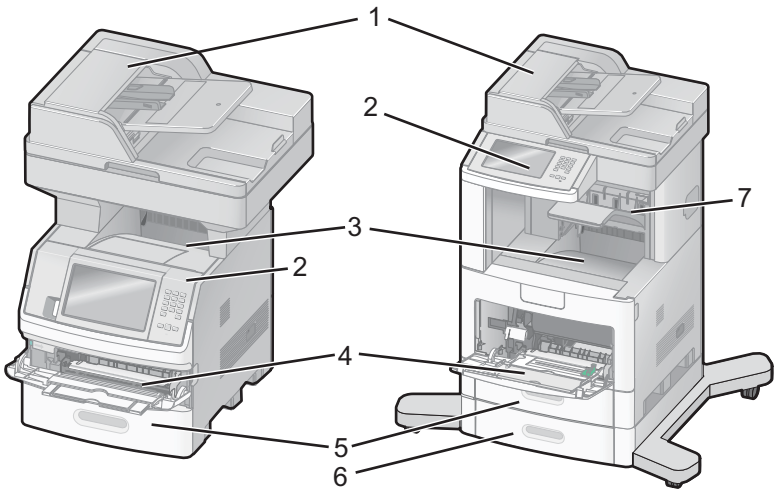
Printer overview

CAUTION: Do not set up this product or make any electrical or cabling connections, such as the power cord or options and features, during a lightning storm.

Printer configuration

Note: Printer configuration may vary depending on your printer model.

Basic models



1	Automatic Document Feeder (ADF)
2	Printer control panel
3	Standard exit bin
4	Multipurpose feeder
5	550-sheet tray (Tray 1)
6	550-sheet tray (Tray 2)
7	Optional output bin

CAUTION:

Floor-mounted configurations require additional furniture for stability. You must use either a printer stand or printer base if you are using a 2000-sheet drawer. Certain other configurations also must have a printer stand or printer base.
More information is available on our Dell Web site at **www.dell.com**.

Options

The following options are available. Some options are not available in every country or region. Contact your point of purchase for options available in your country or region.

Available internal options

- Memory cards
  - Printer memory
  - Flash memory
  - Fonts
- Firmware cards
  - Bar Code and Forms
  - IPDS and SCS/TNe
  - PrintCryption™
  - PRESCRIBE
- Printer hard disk
- LXK Internal Solutions Ports (ISP)
  - RS-232-C Serial ISP
  - Parallel 1284-B ISP
  - MarkNet™ N8150802.11 b/g/n Wireless ISP
  - MarkNet N8130 10/100 Fiber ISP
  - MarkNet N8120 10/100/1000 Ethernet ISP
- MarkNet N8110 V-34 Fax Card

Media handling options

- 250- and 550-sheet paper trays of A4, letter, A5, B5, Executive, folio, statement, and legal size
- 250-sheet universally adjustable tray
- 250- and 550-sheet paper drawers
- 2000-sheet high-capacity feeder
- Envelope feeder
- Duplex option—250-sheet
- Duplex option—550-sheet
- Output expander
- High-capacity output stacker
- StapleSmart™ Finisher
- 5-bin Mailbox
- Vertical Kiosk Presenter
- Horizontal Kiosk Presenter

Supported paper sizes, types, and weights

The following tables provide information on standard and optional paper sources and the types of paper they support.

Note: For an unlisted paper size, select the closest larger listed size.

Paper sizes supported by the printer

Paper size	Dimensions	250-or 550-sheet trays (standard or optional	Optional 2000-sheet tray	Multipurpose feeder	Duplex unit
A4	210 x 297 mm (8.3 x 11.7 in.)	x	x	x	x
A5	148 x 210 mm (5.8 x8.3in.)	x		x	x
A6[1,2]	105 x 148 mm (4.1 x 5.8 in.)			x	
J15 B5	182 x 257 mm (7.2 x 10.1 in.)	x		x	x
Letter	216 x 279 mm (8.5 x 11 in.)	x	x	x	x
Legal	216 x 356 mm (8.5 x14 in.)	x	x	x	x
Executive	184 x 267 mm (7.3 x 10.5 in.)	x		x	x
Oficio[1]	216 x340 mm (8.5 x 13.4 in>)	x		x	x
Folio[1]	216 x 330 mm (8.5 x 13 in.)	x		x	x
Statement[1]	140 x 216 mm (5.5 x8.5 in.)	x		x	
Universal[3,4]	138 x 210 mm (5.5 x8.3 in.) up to 216 x 356 mm (8.5 x 14 in.)	x		x	
	70 x 127 mm (2.8 x 5 in.) up to 216 x 356 mm (8.5 x 14 in.)			x	
	148 x 182 mm (5.8 x 7.7 in.) up to 216 x 356 mm (8.5 x 14 in.)	x		x	x
7 3/4 Envelopes (Monarch)	98 x 191 mm (3.9 x 7.5 in.)			x	
9 Envelope	98 x 225 mm (3.9 x 8.9 in.)			x	
10 Envelope	105 x 241 mm (4.1 x 9.5 in.)			x	
DL Envelope	110 x 220 mm (4.3 x 8.7 in)			x	

Paper size	Dimensions	250-or 550-sheet trays (standard or optional	Optional 2000-sheet tray	Multipurpose feeder	Duplex unit
Other Envelope	98 x 162 mm (3.9 x 6.4 in.) to 176 x 250 mm (6.9 x 9.8 in.)			x	

[1]This size appears in the Paper Size menu only when the paper source does not support size sensing or when size sensing is turned off.

[2]Only the standard exit bin supports this size.

[3]This size setting formats the page for 216 x 356 mm (8.5 x 14 in.) unless the size is specified by the software application.

[4]To support duplexing, the Universal width must be between 148 mm (5.8 in) and 216 mm (8.5 in); Universal length must be between 182 mm (7.2 in) and 356 mm (14 in).

Paper types and weights supported by the printer

Paper type	250-or 550-sheet trays (standard or optional	Optional 2000-sheet tray	Multipurpose feeder	Duplex unit
Paper • Plain • Bond • Colored • Custom • Letterhead • Light • Heavy • Preprinted • Rough/Cotton • Recycled	x	x	x	x
Card stock	x	x	x	x
Envelopes			x	
Labels[1] • Paper • Vinyl	x	x	x	x
Transparencies	x	x	x	x

[1]Printing labels require a special label fuser cleaner which prevents duplexing. The label fuser cleaner is included with the special cartridge required for label applications.

Paper types and weights supported by the output bins

Use this table to determine the possible output destinations of print jobs which use supported paper types and weights. The paper capacity of each output bin is listed in parentheses. Paper capacity estimations are calculated based on 75 g/m^2 (20 lb) paper.

The finisher supports 60-176 g/m2 (16-47 lb) paper weights.

Paper type	Standard exit bin (350 or 550 sheets)	Optional hardware		
		Output Expander (550 sheets) or High Capacity Output stacker (1850 sheets)	5-Bin Mailbox (500 sheets)[1]	StapleSmart II Finisher (500 sheets)[2]
Paper • Plain • Bond • Colored • Custom • Letterhead • Light • Heavy • Preprinted • Rough/Cotton • Recycled	x	x	x	x
Card stock	x	x		
Envelopes				
Labels[3]	x	x		
Transparencies	x	x		

[1]Supports 60-90 g/m2 (16-24 lb) paper weights.

[2]Maximum of 50 sheets of 75 g/m2 (20 lb) paper per stapled packet. Results may vary with heavier paper.

[3]Printing labels require a special label fuser cleaner which prevents duplexing. The label fuser cleaner is included with the special cartridge required for label applications.

Tools required for service

Flat-blade screwdrivers, various sizes
Phillips screwdrivers, various sizes
7/32 inch open-end wrench
7.0 mm nut driver
5.5 mm wrench
Needlenose pliers
Diagonal side cutters
Spring hook
Analog or digital multimeter
Flash light (optional)

Acronyms

ADF	Automatic Document Feeder
AIO	All-In-One
CCD	Charge Coupled Device (CCD)
CRU	Customer Replaceable Unit
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
EP	Electrophotographic process
EPROM	Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
GB	Gigabyte
HCIT	High-Capacity Input Tray
HVPS	High Voltage Power Supply
ITC	Internal Tray Card
LASER	Light Amplification by Stimulated Emission of Radiation
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
LES	LXK Embedded Solution (applications)
LVPS	Low Voltage Power Supply
MDC	Motor Driver Control
MFP	Multifunction Printer
MPF	Multipurpose Feeder
NVRAM	Nonvolatile Random Access Memory
OPT	Optical Sensor
PC	Photoconductor
PIN	Personal Identification Number
PJL	Printer Job Language
POR	Power-On Reset
POST	Power-On Self Test
PP	Parts Packet
PWM	Pulse Width Modulation
RIP	Raster Imaging Processor
SCC	Scanner Control Card
SDRAM	Synchronous Dynamic Random Access Memory
SIMM	Single Inline Memory Module
UAT	Universally Adjustable Tray
USB	Universal Serial Bus
V ac	Volts alternating current
V dc	Volts direct current

2. Diagnostic information

Start

CAUTION:

Unplug the power cord from the electrical outlet before you connect or disconnect any cable electronic board or assembly.

CAUTION:

If the printer is kept on, never touch the conductive parts if not specifically required. The power switch and inlet of the low voltage power supply card (LVPS card) assembly is live even while the power supply is cut off. Never touch the live parts.

CAUTION:

Be careful to avoid burns by safely handling hot parts.

CAUTION

The printer weight is greater than 18kg (40 lbs) and requires two or more trained personnel to lift it safely. Use the hand holds on the side of the printer. Make sure your fingers are not under the printer when you lift or set the printer down.

To determine the corrective action necessary to repair a printer, look for the following information:

- Does the POR stop? Check the [POR (Power On Reset) sequence]
- Do you have a symptom, rather than an error message?
- If you have an error message or user message, check the following:
  - [Error tables]
  - [2xx Paper Jams]
  - [User attendance messages]
  - [Service checks] for individual error messages

Note: There may be printer error messages that are not contained in this service manual. Call your next level support for assistance.

Confirm the installation status

Be sure to check the following items before starting the troubleshooting procedures.

- With the power cord unplugged from the wall outlet, check that the cord is free from breakage, short-circuit, disconnected wire, or incorrect connection in the power cord.
- The printer is properly grounded. Check the power cord ground terminal.
- The printer is not installed at a place subjected to extreme temperature, extreme humidity or rapid changes in temperature.
- The printer is not installed close to water service, humidifier, heat generating unit, fire, in a very dusty place, or a place exposed to air flow from the air conditioning system.
- The printer is not installed in a place where volatile gas or inflammable gas is generated.
- The printer is not installed in direct sun.
- The printer is installed on a level and stable surface.
- Media meets specifications and is installed properly.
- Customer maintenance parts have been replaced at the specified intervals.
- Check all attached options for proper attachment and electrical connection.
- Refer to the *User's Guide* for proper installation.

Power-on Reset sequence

The following is an example of the events that occur during the POR sequence:

1. Turn the machine on.
2. The Dell splash screen appears with a progress bar in the center until the code is loaded.
3. The fuser cooling fan turns on.
4. The fuser unit assembly lamps turn on.
5. The system card assembly cooling fan turns on.
6. Operator panel LED becomes solid.
7. The transport motor turns on.
8. `Ready` is displayed.

Entering Diagnostics Menu

1. Turn off the printer.
2. Press and hold **3** and **6** buttons simultaneously.
3. Turn on the printer.
4. Release the buttons after 10 seconds.

User attendance messages

Error code or message	Error contents	Description/Action	Possible repair actions
System Timeout	System Timeout	The system detects a firmware component that is no longer responding.	Turn the power off; wait a few seconds, and then turn the power back on.
30.XX	Invalid Refill Change Cartridge	Message is cleared when a new print cartridge is installed.	Install the proper print cartridge.
31.XX	Defective Cartridge	Error code 31 displays when the top front cover is closed and a defective print cartridge is detected. It may take the printer 10-20 seconds to determine if the print cartridge is defective.	1. Install the proper print cartridge. 2. Ensure the print cartridge ID connector assembly is properly connected. 3. Replace the print cartridge ID connector assembly if problem remains. Go to **"Print cartridge ID connector assembly removal" on page 4-33**.
32.XX	Cartridge part number X unsupported by device	Error 32 displays when the top cover is closed and an unsupported print cartridge is detected. It may take the printer 10-20 seconds to determine if the print cartridge is supported.	Install the proper print cartridge.
34	Short Paper	The printer determines the paper length is too short to print the formatted data. This occurs when the printer does not know the actual paper size loaded in the tray. For auto-size sensing trays, this error occurs if the paper stop is in the incorrect position. Make sure the Paper Size setting is correct for the size paper that is being used.	1. Ensure the media tray guides are properly set for the media being used. 2. Ensure the Switch media size is properly connected. 3. Replace the switch media size if problem remains. Go to **"Switch (media size) assembly removal" on page 4-45**. 4. Replace the media tray assembly if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
35	Res Save Off Deficient Memory	This IR is displayed when the printer lacks sufficient memory to enable Resource Save. This message usually indicates the user has allocated too much memory for one or more of the printer's link buffers; however, modification of other printer settings which affect the amount of available memory may also create this condition. If the user desires to enable Resource Save after this message has been posted, it is recommended the user either install additional memory or set each link buffer back to the Auto value. Once all link buffers are returned to Auto, the user should exit the menus to activate the link buffer changes. Once the printer returns to the Ready state, the user may then enable Resource Save and then finally go back and modify the link buffers again. The user should note the reduction of available memory to the link buffers when Resource Save has been enabled as opposed to the memory available when Resource Save is disabled.	This message displays when the printer lacks sufficient memory to enable Resource Save. This message usually indicates the user has allocated too much memory for one or more of the printer link buffers; however, modification of other printer settings which affect the amount of available memory may also create this condition. If restoration of Resource Save is required after this message is received, the customer should install additional memory or set each link buffer to Auto. Once all link buffers are returned to Auto, you should exit the menu to activate the link buffer changes. Once the printer returns to the Ready state, you can enable Resource Save and go back and modify the link buffers again. Note the reduction of available memory to the link buffers when Resource Save has been enabled, and compare it to the memory available when Resource Save is disabled. • Press ✓ to disable Resource Save and continue printing. To enable Resource Save after you get this message: - Make sure the link buffers are set to Auto, then exit the menus to activate the link buffer changes. - When Ready is displayed, enable Resource Save. • Install additional memory.
37A	Insufficient Collation Area	This message displays when the printer memory is insufficient to perform the Flash Memory Defragment operation. **Note:** This message is posted prior to the actual start of the defragment operation. The printer code determines if enough printer memory is available to complete the defragment operation. The user should not be concerned with losing resources stored in the flash option.	The following actions may be taken: • Press ✓ to clear the message. To perform the defragment operation: - Delete fonts, macros, and other data in RAM. - Install additional printer memory. • Press 🔑 until Busy/ Waiting appears. The following actions are available: - Cancel Job - Reset Printer - Reset Active Bin

Error code or message	Error contents	Description/Action	Possible repair actions
37C	Insufficient Memory	This message displays when the printer memory used to restore the Print and Hold jobs from the disk and found that some or all of the jobs could not be restored. The printer ran out of memory while attempting to restore the jobs.	The following actions may be taken: • Press ✓ to clear the message. Some of the Print and Hold jobs on the disk will not be restored. They remain on the disk, but cannot be accessed. • Press 🔑 until Busy/ Waiting appears. The following functions may be available: - Cancel Job - Reset Printer Reset Active Bin
38	Memory Full	This message displays when the printer is processing an incoming job and there is insufficient memory available to continue processing the job.	The following actions may be taken: • Press ✓ to clear the message. Perform the defragment operation: - Perform the defragment operation - Delete fonts, macros, and other data in RAM - Install additional memory • Press 🔑 to display Busy/ Waiting. The following functions may be available: - Cancel Job - Reset Printer Reset Active Bin
39	Complex Page	This message displays when the page is too complex to print. The following actions may be taken:	The following actions may be taken: • Press ✓ to clear the message and continue the job. Some data loss may occur. Simplify the print job and reprint, if necessary. • Press 🔑 until Busy/ Waiting appears. The following selections are possible: - Cancel Job - Reset Printer Reset Active Bin

Error code or message	Error contents	Description/Action	Possible repair actions
42.XY	Cartridge Region Mismatch	This IR is displayed when the printer detects that the installed cartridge has a region that differs from the below options. To clear this IR, the printer cartridge must be replaced with one that has a proper region. X and Y can have the following values: 0 : Worldwide region or Undefined region 1 : America 2 : EMEA 3 : Asia 4 : Latin America 9 : Invalid region	Install a new toner cartridge that matches the correct regional specification.
50	PPDS Font Error	This message displays when the PPDS interpreter has encountered a font error. **Note:** This error may only occur when the printer is formatting PPDS print data.	The following actions may be taken: • Press ✓ to clear the message and continue processing the job. • Press 🔑 until Busy/ Waiting appears. The following are available: - Cancel Job - Reset Printer - Reset Active Bin
51	Defective Flash	This message displays when the printer detects a defective flash. This error may occur at power on, or during flash format and write operations.	Press ✓ to clear the message. The flash is marked as bad and normal operation continues. Flash operations are not allowed until the problem is resolved.
52	Flash Full	This message displays when the printer detects an unformatted flash at power on.	Press ✓ to clear the message. The flash is marked as bad and normal operation continues. Flash operations are not allowed until the flash is formatted.
54A	Serial Option [x] Error	This IR is displayed when a serial error (framing, parity or overrun) has been detected on the specified optional serial port. This usually indicates that the serial port has not been set up correctly. Once a host interface error has been displayed for the first time, reporting of further host interface errors for the associated port is suppressed until the interface parameters are changed for the associated, or the machine is powered off.	Go to network service check. See **"ADF & Scanner Related Troubleshooting" on page 2-171**.

Error code or message	Error contents	Description/Action	Possible repair actions
54B	Std Network Software Error	This error displays when a network port is detected, but the printer cannot establish communications with it.	The following actions may be taken: • Press ✓ to clear the message and continue printing. The job may not print correctly. • Program new firmware for the network interface. Reset the printer.
54C	Network [x] Software Error	This error displays when a network port is detected, but the printer cannot establish communications with it.	The following actions may be taken: • Press ✓ to clear the message and continue printing. The job may not print correctly. • Program new firmware for the network interface. • Reset the printer.
55B	Unsupported Option in Slot [x]	An unsupported option is installed in the specified solutions port. Power off the printer and remove the unsupported option in the specified slot.	Remove unsupported option.
56A	Parallel Port [x] Disabled	This error displays when data is sent to the printer across an optional parallel port, but the port has been disabled. Once this message displays, reporting of further errors is suppressed until the menus are entered, or the printer is reset.	Go to network service check. See **"ADF & Scanner Related Troubleshooting" on page 2-171**.
56B	Serial Port [x] Disabled	This error displays when data is sent to the printer across an serial port, but the port has been disabled. Once this message displays, reporting of further errors is suppressed until the menus are entered, or the printer is reset.	Go to network service check. See **"ADF & Scanner Related Troubleshooting" on page 2-171**.
56C	Standard USB Port Disabled	Displayed when status is requested over the USB port, but the port has been disabled. Once the error has been displayed for the first time, reporting of further errors is suppressed until the menus are entered or the printer is reset.	The following actions may be taken: • Press ✓ to clear the message. The printer discards any data received on the USB port. • Press 🔑 until Busy/ Waiting appears. The following are available: - Reset Printer Reset Active Bin

Error code or message	Error contents	Description/Action	Possible repair actions
56E	USB Port [x] Disabled	Displayed when status is requested over the USB port, but the port has been disabled. Once the error has been displayed for the first time, reporting of further errors is suppressed until the menus are entered or the printer is reset.	The following actions may be taken: • Press ✓ to clear the message. The printer discards any data received on the USB port. • Press 🔑 until Busy/ Waiting appears. The following are available: - Reset Printer Reset Active Bin
58A	Too Many Bins Attached	This error code displays when too many bins are attached to the printer.	1. Turn off and unplug the printer. 2. Remove the excess bins. 3. Plug in the printer, and turn it on.
58B	Too Many Disks Installed	This error code displays when too many disks are attached to the printer.	1. Turn off and unplug the printer. 2. Remove the excess disks. 3. Plug in the printer, and turn it on.
58C	Too Many Flash Options	This error code displays when too many user flash memory options or too many optional firmware cards have been installed. User can power off and remove extra flash options.	1. Turn off and unplug the printer. 2. Remove the excess flash memory. 3. Plug in the printer, and turn it on.
58D	Too Many Trays Attached	This error code displays when too many input trays are attached to the printer.	1. Turn off and unplug the printer. 2. Remove the excess trays. 3. Plug in the printer, and turn it on.
59A	Incompatible Duplex	An incompatible duplex option is installed. Remove the incompatible duplex option and press ✓ to clear the message. **Note:** If the user installed the incompatible device to satisfy a Check Device Connections/ reattach message, the user should reinstall an associated compatible option or hot unplug the option.	1. Turn off and unplug the printer. 2. Remove the incompatible external duplex unit assembly. 3. Plug in the printer, and turn it on.

Error code or message	Error contents	Description/Action	Possible repair actions
59B	Incompatible Envelope Feeder	An incompatible envelope feeder is installed. Remove the incompatible feeder and press ✓ to clear the message. **Note:** If the user installed the incompatible device to satisfy a Check Device Connections/ reattach message, the user should reinstall an associated compatible option or hot unplug the option.	1. Turn off and unplug the printer. 2. Remove the incompatible envelope feeder. 3. Plug in the printer, and turn it on.
59C	Incompatible Output Bin [x]	An incompatible output bin is installed. For Output Bin *x*, *x*=1, 2, or 3. Remove the incompatible output bin and press ✓ to clear the message. **Note:** If the user installed the incompatible device to satisfy a Check Device Connections/ reattach message, the user should reinstall an associated compatible option or hot unplug the option.	1. Turn off and unplug the printer. 2. Remove the incompatible output option. 3. Plug in the printer, and turn it on.
59D	Incompatible Tray [x]	An incompatible tray is installed. For Tray *x*, *x*= 2, 3, 4, or 5. Remove the incompatible tray and press ✓ to clear the message. **Note:** If the user installed the incompatible device to satisfy a Check Device Connections/ reattach message, the user should reinstall an associated compatible option or hot unplug the option.	1. Turn off and unplug the printer. 2. Remove the incompatible trays. 3. Plug in the printer, and turn it on.
61	Defective Disk	This error code displays when the printer detects a defective disk. This error may occur at power on or during disk format and write operations. While this message displays.	press ✓ to clear the message. The disk is marked defective and normal printer operations continue. Disk operations are not allowed with a defective disk. The Format Disk menu is not shown.
62	Disk Full	This error code displays when there is not enough free space on the disk to hold the resources that have been requested to be written to the disk. This message displays for both resource and PostScript Disk operators when the disk is full.	TBD

Error code or message	Error contents	Description/Action	Possible repair actions
80	Routine Maintenance Needed	The operator panel displays this message at each 300K page count interval. It is necessary to replace the fuser assembly, transfer roller, charge roll, and pick rolls at this interval to maintain the print quality and reliability of the printer. The parts are available as a maintenance kit. For more information, go to **"Scheduled maintenance" on page 6-2**.	Scheduled maintenance required. Refer to chapter 6. Go to **"Preventive maintenance" on page 6-1**.
88A	Cartridge Low	This IR is displayed when cartridge low occurs and the cartridge low alarm is activated. If cartridge alarm is not activated, this is not an intervention condition.	Replace the print cartridge.
88C	Cartridge Nearly Low	This IR is displayed when cartridge low occurs and the cartridge low alarm is activated. If cartridge alarm is not activated, this is not an intervention condition.	Replace the print cartridge.
88C	Replace Cartridge	This IR is displayed when toner cartridge is exhausted/empty.	Replace the print cartridge.

Error code table

Error code or message	Error contents	Description/Action	Possible repair actions
200.00	Sensor (input) area jam	The media is jammed in the sensor (input) area.	1. Fan the media and check for obstructions. 2. Go to sensor (input) service check. See **"Sensor (input) service check" on page 2-107**.
200.01	Sensor (input) lingering jam Source = MPF, duplex or envelope feeder	The media reached the sensor (input) but did not clear it within the specified time.	1. Fan the media and check for obstructions. 2. Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.02	Sensor (input) lingering jam	The media reached the sensor (input) but did not clear it within the specified time.	1. Fan the media and ensure it is properly installed. 2. Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.04	Sensor (input) early jam	The media reached the sensor (input) sooner than the specified time. Wrong config ID causes engine to assume 500 paper path on 250 model.	1. Fan the media and ensure it is properly installed. 2. Go to sensor (input) early jam service check. See **"Sensor (input) early jam service check" on page 2-130**.
200.06	Sensor (input) early jam	The sensor (input) rebounded once the trailing edge of the media passed.	Go to sensor (input) service check. See **"Sensor (input) service check" on page 2-107**.
200.07	Sensor (input) late jam Source = input option tray	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
200.08	Sensor (input) early jam	The media reaches the sensor (input) sooner than the specified time.	1. Fan the media and ensure it is properly installed. 2. Go to sensor (input) early jam service check. See **"Sensor (input) early jam service check" on page 2-130**.

Error code or message	Error contents	Description/Action	Possible repair actions
200.09	Printhead laser start failure	The printhead laser start process failed because it did not receive proper feedback signal from the printhead motor.	1. Check all connections on the printhead. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly if problem remains. Go to **"Main drive motor assembly removal" on page 4-20**.
200.10	Printhead motor synchronization error	The printhead motor is not synchronized when media reaches the sensor (input).	1. Remove all media present in media path. 2. Check all connections on the printhead. 3. Check all connections on the system card assembly. 4. Replace the printhead if problem remains. Go to **"Printhead assembly removal" on page 4-34**.
200.11	Printhead polygon mirror synchronization error	The printhead polygon mirror motor becomes un-synchronized when the media reaches the sensor (input).	1. Remove all media present in media path. 2. Check all connections on the printhead. 3. Check all connections on the system card assembly. 4. Replace the printhead if problem remains. Go to **"Printhead assembly removal" on page 4-34**.
200.12	Laser power signal error	The printhead laser power signal has failed	1. Remove all media present in media path. 2. Check all connections on the printhead. 3. Check all connections on the system card assembly. Replace the printhead if problem remains. Go to **"Printhead assembly removal" on page 4-34**. 4. Replace the system card if problem remains. Go to **"System card assembly removal" on page 4-50**.
200.13	Sensor (input) static jam	Media remains on the sensor (input) during the warm up sequence.	Go to sensor (input) static jam service check. See **"Sensor (input) static jam service check" on page 2-131**.
200.14	Sensor (input) early jam	The media reached the sensor (input) sooner than the specified time.	Go to sensor (input) early jam service check. See **"Sensor (input) early jam service check" on page 2-130**.

Error code or message	Error contents	Description/Action	Possible repair actions
200.15	Laser power did not settle	Laser circuit failure on printhead or system card assembly.	1. Remove all media present in media path. 2. Check all connections on the printhead. 3. Check all connections on the system card assembly. Replace the printhead if problem remains. Go to **"Printhead assembly removal" on page 4-34**. 4. Replace the system card if problem remains. Go to **"System card assembly removal" on page 4-50**.
200.16	Main drive motor assembly load error	The main drive motor assembly has failed or caused high mechanical load due to paper jam or bind.	1. Remove all media present in media path. 2. Check all connections on the main drive motor assembly. 3. Check all connections on the system card assembly. 4. Replace the main drive motor assembly if problem remains. Go to **"Main drive motor assembly removal" on page 4-20**.
200.17	Sensor (input) lingering jam Source = Tray 1 Tray level= Not Low	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.18	Sensor (input) lingering jam Source = Tray 1 Tray level = Low	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.19	Sensor (input) lingering jam Source = Tray 1 Tray level = Empty	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.27	Sensor (input) lingering jam Source = Tray 2 Tray level = Not Low	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.28	Sensor (input) lingering jam Source = Tray 2 Tray level = Low	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.

Error code or message	Error contents	Description/Action	Possible repair actions
200.29	Sensor (input) lingering jam Source = Tray 2 Tray level = Empty	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.32	Operator panel door assembly switch failure	Operator panel door assembly not fully closed. Interlock switch not functioning correctly.	1. Ensure that the operator panel door assembly is fully closed. 2. Check operator panel door assembly for damage. 3. Check interlock switch (in left operator panel hinge) for damage. 4. Check all connections on the system card assembly.
200.33	Sensor (input) early jam	The media reached the sensor (input) sooner than the specified time. Wrong config ID causes engine to assume 500 paper path on 250 model.	1. Fan the media and ensure it is properly installed. 2. Go to sensor (input) early jam service check. See **"Sensor (input) early jam service check" on page 2-130**.
200.34	Sensor (toner empty) failure	The sensor (toner empty) has failed or is not sensing the pulse wheel on the print cartridge.	1. Inspect print cartridge pulse wheel for damage and replace if needed. 2. Check the sensor (toner empty) for proper operation. See **"Sensor (ADF sheet through) static jam service check" on page 2-112**.
200.37	Sensor (input) lingering jam Source = Tray 3 Tray level= Not Low	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.38	Sensor (input) lingering jam Source = Tray 3 Tray level = Low	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.39	Sensor (input) lingering jam Source = Tray 3 Tray level = Empty	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.47	Sensor (input) lingering jam Source = Tray 4 Tray level = Not Low	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.

Error code or message	Error contents	Description/Action	Possible repair actions
200.48	Sensor (input) lingering jam Source = Tray 4 Tray level = Low	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.49	Sensor (input) lingering jam Source = Tray 4 Tray level = Empty	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.57	Sensor (input) lingering jam Source = Tray 5 Tray level = Not Low	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.58	Sensor (input) lingering jam Source = Tray 5 Tray level = Low	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
200.59	Sensor (input) lingering jam Source = Tray 5 Tray level = Empty	The media reached the sensor (input) but did not clear it within the specified time.	Go to sensor (input) lingering jam service check. See **"Sensor (input) lingering jam service check" on page 2-129**.
201.00	Sensor (fuser output) area jam. Type 1 fuser	The media is jammed in the sensor (fuser output) area.	Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**.
201.01	Main drive motor assembly load error. Type 1 fuser	The main drive motor assembly has failed or caused high mechanical load due to paper jam or bind.	1. Check all connections on the main drive motor assembly. 2. Check all connections on the system card assembly. 3. Replace the main drive motor assembly if problem remains. Go to **"Main drive motor assembly removal" on page 4-20**.
201.02	Sensor (fuser output) late jam. Type 1 fuser	The media is late reaching the sensor (fuser output) within the specified time.	Go to sensor (fuser output) late jam service check. See **"Sensor (fuser output) late jam service check" on page 2-132**. If problem remains, a type 2 fuser can be installed.
201.04	Sensor (narrow media) late jam Type 1 fuser	The expected wide media is late reaching the sensor (narrow media) within the specified time.	Go to sensor (narrow media) late jam service check. See **"Sensor (narrow media) late jam service check" on page 2-135**.

Error code or message	Error contents	Description/Action	Possible repair actions
201.06	Sensor (narrow media) late jam Type 1 fuser	The expected wide media is late reaching the sensor (narrow media) within the specified time.	Go to sensor (narrow media) late jam service check. See **"Sensor (narrow media) late jam service check" on page 2-135**.
201.07	Sensor (fuser output) late jam Type 1 fuser	The media is late reaching the sensor (fuser output) within the specified time.	Go to sensor (fuser output) late jam service check. See **"Sensor (fuser output) late jam service check" on page 2-132**.
201.25	Sensor (fuser output) area jam. Type 2 fuser	The media is jammed in the sensor (fuser output) area.	Go to sensor (fuser output) service check. See **"Sensor (fuser output) late jam service check" on page 2-132**.
201.26	Main drive motor assembly load error. Type 2 fuser	The main drive motor assembly has failed or caused high mechanical load due to paper jam or bind.	1. Check all connections on the main drive motor assembly. 2. Check all connections on the system card assembly. 3. Replace the main drive motor assembly if problem remains. Go to **"Main drive motor assembly removal" on page 4-20**.
201.27	Sensor (fuser output) late jam. Type 2 fuser	The media is late reaching the sensor (fuser output) within the specified time.	Go to sensor (fuser output) late jam service check. See **"Sensor (fuser output) late jam service check" on page 2-132**. If problem remains, a type 2 fuser can be installed.
201.29	Sensor (narrow media) late jam Type 2 fuser	The expected wide media is late reaching the sensor (narrow media) within the specified time.	Go to sensor (narrow media) late jam service check. See **"Sensor (narrow media) late jam service check" on page 2-135**.
201.30	Operator panel door assembly interlock switch failure Type 2 fuser	The printer detected that the operator panel door interlock switch did not cycle prior to printer restart.	1. Remove all media present in media path. 2. Ensure that the operator panel door assembly is fully open then fully closed. 3. Check operator panel door assembly for damage. 4. Check interlock switch (in left operator panel hinge) for damage. 5. Check all connections on the system card assembly.

Error code or message	Error contents	Description/Action	Possible repair actions
201.31	Sensor (narrow media) late jam Type 2 fuser	The expected wide media is late reaching the sensor (narrow media) within the specified time.	Go to sensor (narrow media) late jam service check. See **"Sensor (narrow media) late jam service check" on page 2-135**.
201.32	Sensor (fuser output) late jam Type 2 fuser	The media is late reaching the sensor (fuser output) within the specified time.	Go to sensor (fuser output) late jam service check. See **"Sensor (fuser output) late jam service check" on page 2-132**.
201.50	Sensor (fuser output) late jam Type 1 fuser Fuser page count has exceeded life.	The media is late reaching the sensor (fuser output) within the specified time.	Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**.
201.51	Main drive motor assembly load error. Type 1 fuser Fuser page count has exceeded life.	The main drive motor assembly has failed or caused high mechanical load due to paper jam or bind.	1. Check all connections on the main drive motor assembly. 2. Check all connections on the system card assembly. 3. Replace the main drive motor assembly if problem remains. Go to **"Main drive motor assembly removal" on page 4-20**.
201.52	Sensor (fuser output) late jam Type 1 fuser Fuser page count has exceeded life.	The media is late reaching the sensor (fuser output) within the specified time.	Go to sensor (fuser output) late jam service check. See **"Sensor (fuser output) late jam service check" on page 2-132**. If problem remains, a type 2 fuser can be installed.
201.54	Sensor (narrow media) late jam Type 1 fuser Fuser page count has exceeded life	The media is late reaching the sensor (narrow media) within the specified time.	Go to sensor (narrow media) late jam service check. See **"Sensor (narrow media) late jam service check" on page 2-135**.
201.55	Operator panel door assembly interlock switch open failure Type 1 fuser Fuser page count has exceeded life	The printer detected that the switch (operator panel door interlock) did not cycle prior to printer restart.	1. Remove all media present in media path. 2. Ensure that the operator panel door assembly is fully open then fully closed. 3. Check operator panel door assembly for damage. 4. Check interlock switch (in left operator panel hinge) for damage. 5. Check all connections on the system card assembly.

Error code or message	Error contents	Description/Action	Possible repair actions
201.56	Sensor (narrow media) late jam Type 1 fuser Fuser page count has exceeded life.	The media is late reaching the sensor (narrow media) within the specified time.	Go to sensor (narrow media) late jam service check. See **"Sensor (narrow media) late jam service check" on page 2-135**.
201.57	Sensor (fuser output) late jam Type 1 fuser Fuser page count has exceeded life	The media is late reaching the sensor (fuser output) within the specified time.	Go to sensor (fuser output) late jam service check. See **"Sensor (fuser output) late jam service check" on page 2-132**.
201.75	Sensor (fuser output) late jam Type 2 fuser Fuser page count has exceeded life.	The media is late reaching the sensor (fuser output) within the specified time.	Go to sensor (fuser output) late jam service check. See **"Sensor (fuser output) late jam service check" on page 2-132**.
201.76	Main drive motor assembly load error. Type 2 fuser Fuser page count has exceeded life.	The main drive motor assembly has failed or caused high mechanical load due to paper jam or bind.	1. Remove all media present in media path. 2. Check all connections on the main drive motor assembly. 3. Check all connections on the system card assembly. 4. Replace the main drive motor assembly if problem remains. Go to **"Main drive motor assembly removal" on page 4-20**.
201.77	Sensor (fuser output) late jam Type 2 fuser Fuser page count has exceeded life.	The media is late reaching the sensor (fuser output) within the specified time.	Go to sensor (fuser output) late jam service check. See **"Sensor (fuser output) late jam service check" on page 2-132**.
201.79	Sensor (narrow media) late jam Type 2 fuser Fuser page count has exceeded life	The media is late reaching the sensor (narrow media) within the specified time.	Go to sensor (narrow media) late jam service check. See **"Sensor (narrow media) late jam service check" on page 2-135**.
201.80	Operator panel door assembly interlock switch open failure Type 2 fuser Fuser page count has exceeded life	The printer detected that the switch (operator panel door interlock) did not cycle prior to printer restart.	1. Remove all media present in media path. 2. Ensure that the operator panel door assembly is fully open then fully closed. 3. Check operator panel door assembly for damage. 4. Check interlock switch (in left operator panel hinge) for damage. 5. Check all connections on the system card assembly.

Error code or message	Error contents	Description/Action	Possible repair actions
201.81	Sensor (narrow media) late jam Type 2 fuser Fuser page count has exceeded life.	The media is late reaching the sensor (narrow media) within the specified time.	Go to sensor (narrow media) late jam service check. See **"Sensor (narrow media) late jam service check" on page 2-135**.
201.82	Sensor (fuser output) late jam Type 2 fuser Fuser page count has exceeded life	The media is late reaching the sensor (fuser output) within the specified time.	Go to sensor (fuser output) late jam service check. See **"Sensor (fuser output) late jam service check" on page 2-132**.
202.00	Paper jam around fuser exit or redrive area. Type 1 fuser	Page may be jammed in fuser exit or redrive area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**. 5. Go to sensor (narrow media) service check. See **"Sensor (narrow media) service check" on page 2-108**.
202.01	Sensor (fuser output) lingering jam. Destination is standard bin. Type 1 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did not reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.02	Sensor (fuser output) lingering jam. Type 1 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.03	Sensor (narrow media) static jam Type 1 fuser	Media remains on the sensor (narrow media) during the warm up sequence.	Go to sensor (narrow media) static jam service check. See **"Sensor (narrow media) static jam service check" on page 2-136**.
202.04	Sensor (fuser output) bounce Type 1 fuser	The sensor (fuser output) rebounded once the trailing edge of the media passed.	Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**.
202.06	Sensor (fuser output) static jam Type 1 fuser	Media remains on the sensor (fuser output) during the warm up sequence.	Go to sensor (fuser output) static jam service check. See **"Sensor (fuser output) static jam service check" on page 2-135**.

Error code or message	Error contents	Description/Action	Possible repair actions
202.07	Sensor (fuser output) lingering jam. Type 1 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.09	Sensor (fuser output) lingering jam. Type 1 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.10	Sensor (fuser output) lingering jam. Destination is output option. Type 1 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did not reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.11	Sensor (fuser output) lingering jam. Destination is standard bin. Type 1 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.12	Sensor (fuser output) lingering jam. Destination is output option. Type 1 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.13	Sensor (fuser output) static jam and Sensor (narrow media) static jam Type 1 fuser	Media remains on the sensor (fuser output) and the sensor (narrow media) during the warm up sequence.	1. Go to sensor (fuser output) static jam service check. See **"Sensor (fuser output) static jam service check" on page 2-135**. 2. Go to sensor (narrow media) static jam service check. See **"Sensor (narrow media) static jam service check" on page 2-136**.

Error code or message	Error contents	Description/Action	Possible repair actions
202.25	Paper jam around fuser exit or redrive area. Type 2 fuser	Page may be jammed in fuser exit or redrive area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Go to sensor (fuser output) service check. 5. See **"Sensor (fuser output) service check" on page 2-107**. 6. Go to sensor (narrow media) service check. See **"Sensor (narrow media) service check" on page 2-108**.
202.26	Sensor (fuser output) lingering jam. Destination is standard bin. Type 2 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did not reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.27	Sensor (fuser output) lingering jam. Type 2 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.28	Sensor (narrow media) static jam Type 2 fuser	Media remains on the sensor (narrow media) during the warm up sequence.	Go to sensor (narrow media) static jam service check. See **"Sensor (narrow media) static jam service check" on page 2-136**.
202.29	Sensor (fuser output) bounce Type 2 fuser	The sensor (fuser output) rebounded once the trailing edge of the media passed.	Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**.
202.30	Never sent the divert command to the stacker. Type 2 fuser		
202.31	Sensor (fuser output) static jam Type 2 fuser	Media remains on the sensor (fuser output) during the warm up sequence.	Go to sensor (fuser output) static jam service check. See **"Sensor (fuser output) static jam service check" on page 2-135**.
202.32	Sensor (fuser output) lingering jam. Type 2 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.

Error code or message	Error contents	Description/Action	Possible repair actions
202.34	Sensor (fuser output) lingering jam. Type 2 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.35	Sensor (fuser output) lingering jam. Destination is output option. Type 2 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did not reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.36	Sensor (fuser output) lingering jam. Destination is standard bin. Type 2 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.37	Sensor (fuser output) lingering jam. Destination is output option. Type 2 fuser	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.38	Sensor (fuser output) static jam and Sensor (narrow media) static jam Type 2 fuser	Media remains on the sensor (fuser output) and the sensor (narrow media) during the warm up sequence.	1. Go to sensor (fuser output) static jam service check. See **"Sensor (fuser output) static jam service check" on page 2-135**. 2. Go to sensor (narrow media) static jam service check. See **"Sensor (narrow media) static jam service check" on page 2-136**.
202.50	Paper jam around fuser exit or redrive area. Type 1 fuser Fuser page count has exceeded life	Page may be jammed in fuser exit or redrive area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**. 5. Go to sensor (narrow media) service check. See **"Sensor (narrow media) service check" on page 2-108**.

Error code or message	Error contents	Description/Action	Possible repair actions
202.51	Sensor (fuser output) lingering jam. Destination is standard bin. Type 1 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.52	Sensor (fuser output) lingering jam. Type 1 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.53	Sensor (narrow media) static jam Type 1 fuser Fuser page count has exceeded life.	Media remains on the sensor (narrow media) during the warm up sequence.	Go to sensor (narrow media) static jam service check. See **"Sensor (narrow media) static jam service check" on page 2-136**.
202.54	Sensor (fuser output) bounce Type 1 fuser Fuser page count has exceeded life.	The sensor (fuser output) rebounded once the trailing edge of the media passed.	Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**.
202.56	Sensor (fuser output) static jam Type 1 fuser Fuser page count has exceeded life.	Media remains on the sensor (fuser output) during the warm up sequence.	Go to sensor (fuser output) static jam service check. See **"Sensor (fuser output) static jam service check" on page 2-135**.
202.57	Sensor (fuser output) lingering jam. Type 1 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.59	Sensor (fuser output) lingering jam. Type 1 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.60	Sensor (fuser output) lingering jam. Destination is output option. Type 1 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did not reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.

Error code or message	Error contents	Description/Action	Possible repair actions
202.61	Sensor (fuser output) lingering jam. Destination is standard bin. Type 1 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.62	Sensor (fuser output) lingering jam. Destination is output option. Type 1 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.63	Sensor (fuser output) static jam and Sensor (narrow media) static jam Type 1 fuser Fuser page count has exceeded life.	Media remains on the sensor (fuser output) and the sensor (narrow media) during the warm up sequence.	1. Go to sensor (fuser output) static jam service check. See **"Sensor (fuser output) static jam service check" on page 2-135**. 2. Go to sensor (narrow media) static jam service check. See **"Sensor (narrow media) static jam service check" on page 2-136**.
202.75	Paper jam around fuser exit or redrive area. Type 2 fuser Fuser page count has exceeded life.	Page may be jammed in fuser exit or redrive area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**. 5. Go to sensor (narrow media) service check. See **"Sensor (narrow media) service check" on page 2-108**.
202.76	Sensor (fuser output) lingering jam. Destination is standard bin. Type 2 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did not reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.77	Sensor (fuser output) lingering jam. Type 2 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.

Error code or message	Error contents	Description/Action	Possible repair actions
202.78	Sensor (narrow media) static jam Type 2 fuser Fuser page count has exceeded life.	Media remains on the sensor (narrow media) during the warm up sequence.	1. Go to sensor (fuser output) static jam service check. See **"Sensor (fuser output) static jam service check" on page 2-135**. 2. Go to sensor (narrow media) static jam service check. See **"Sensor (narrow media) static jam service check" on page 2-136**.
202.79	Sensor (fuser output) bounce Type 2 fuser Fuser page count has exceeded life.	The sensor (fuser output) rebounded once the trailing edge of the media passed.	Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**.
202.81	Sensor (fuser output) static jam Type 2 fuser Fuser page count has exceeded life.	Media remains on the sensor (fuser output) during the warm up sequence.	Go to sensor (fuser output) static jam service check. See **"Sensor (fuser output) static jam service check" on page 2-135**.
202.82	Sensor (fuser output) lingering jam. Type 2 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.84	Sensor (fuser output) lingering jam. Type 2 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time.	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.85	Sensor (fuser output) lingering jam. Destination is output option. Type 2 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did not reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.86	Sensor (fuser output) lingering jam. Destination is standard bin. Type 2 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.

Error code or message	Error contents	Description/Action	Possible repair actions
202.87	Sensor (fuser output) lingering jam. Destination is output option. Type 2 fuser Fuser page count has exceeded life.	Media reached the sensor (fuser output) but did not clear it in the specified time. and Media did reach the sensor (narrow media)	Go to sensor (fuser output) lingering jam service check. See **"Sensor (fuser output) lingering jam service check" on page 2-133**.
202.88	Sensor (fuser output) static jam and Sensor (narrow media) static jam Type 2 fuser Fuser page count has exceeded life.	Media remains on the sensor (fuser output) and the sensor (narrow media) during the warm up sequence.	1. Go to sensor (fuser output) static jam service check. See **"Sensor (fuser output) static jam service check" on page 2-135**. 2. Go to sensor (narrow media) static jam service check. See **"Sensor (narrow media) static jam service check" on page 2-136**.
202.99	Fuser ID chip failure	The system does not recognize the ID chip on the fuser unit.	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.
203.00	Paper jam around redrive area.	Page may be jammed in redrive area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**. 5. Go to sensor (narrow media) service check. See **"Sensor (narrow media) service check" on page 2-108**.
203.01	Internal duplex drive motor control failure. Internal duplex	The internal duplex drive motor motor does not reach the proper operating speed at the specified time.	1. Remove all media present in media path. 2. Check all connections on the duplex media entrance drive motor assembly. 3. Check all connections on the system card assembly. 4. Replace the duplex media entrance drive motor assembly if problem remains. Go to **"Duplex drive motor assembly removal" on page 4-9**.

Error code or message	Error contents	Description/Action	Possible repair actions
203.08	Redrive motor load error	The redrive motor assembly has failed or caused high mechanical load during the warm up sequence.	1. Remove all media present in media path. 2. Ensure that upper redive assembly is properly installed. 3. Check all connections on the redrive motor assembly. 4. Check all connections on the system card assembly. 5. Replace the redrive motor assembly if problem remains. Go to **"Redrive motor assembly removal" on page 4-38**.
203.10	Redrive motor control failure. Media tray 1	The redrive motor does not reach the proper operating speed at the specified time.	1. Remove all media present in media path. 2. Ensure that upper redive assembly is properly installed. 3. Check all connections on the redrive motor assembly. 4. Check all connections on the system card assembly. 5. Replace the redrive motor assembly if problem remains. Go to **"Redrive motor assembly removal" on page 4-38**.
203.18	Redrive motor assembly underspeed error.	The redrive motor assembly does not rotate at the specified speed.	1. Remove all media present in media path. 2. Ensure that upper redive assembly is properly installed. 3. Check all connections on the redrive motor assembly. 4. Check all connections on the system card assembly. 5. Replace the redrive motor assembly if problem remains. Go to **"Redrive motor assembly removal" on page 4-38**.
203.20	Redrive motor lost encoder failure	The redrive motor is not reporting pulses back to the engine.	1. Check all connections on the redrive motor assembly. 2. Check all connections on the system card assembly. 3. Replace the redrive motor assembly if problem remains. Go to **"Redrive motor assembly removal" on page 4-38.**

Error code or message	Error contents	Description/Action	Possible repair actions
230.00	Paper jam around internal duplex. Source = Internal duplex	Page may be jammed in internal duplex area.	1. Remove all media present in media path. 2. Check for obstructions in media path. 3. Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**. 4. Go to sensor (duplex input) service check. See **"Sensor (duplex input) service check" on page 2-108**.
230.01	Sensor (duplex input) lingering jam Source = Internal duplex	Media reached the sensor (duplex input) but did not clear it in the specified time.	Go to sensor (duplex input) lingering jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
230.02	Sensor (duplex input) late jam Source = Internal duplex	Media is late reaching the sensor (duplex input) within the specified time.	Go to sensor (duplex input) late jam service check. See **"Sensor (duplex input) late jam service check" on page 2-137**.
230.03	Sensor (duplex input) bounce Source = Internal duplex	The sensor (duplex input) rebounded once the trailing edge of the media passed.	Go to sensor (duplex input) service check. See **"Sensor (duplex input) service check" on page 2-108**.
230.04	Sensor (input) late jam from duplex Source = Internal duplex	Media is late reaching the sensor (input) within the specified time during the second side printing using the internal duplex.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
230.05	sensor (duplex input) lingering jam Source = Internal duplex	Media reached the sensor (duplex input) but did not clear it in the specified time.	Go to sensor (duplex input) lingering jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
230.06	Sensor (input) late jam from duplex Source = Internal duplex	Media is late reaching the sensor (input) within the specified time during the second side printing using the internal duplex.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
230.07	Sensor (input) late jam from duplex Source = Internal duplex	Media is late reaching the sensor (input) within the specified time during the second side printing using the internal duplex.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.

Error code or message	Error contents	Description/Action	Possible repair actions
230.08	Internal duplex drive motor load error Source = Internal duplex	The internal duplex drive motor assembly has failed or caused high mechanical load during warm up sequence.	1. Remove all media present in media path. 2. Check all connections on the duplex media entrance drive motor assembly. 3. Check all connections on the system card assembly. 4. Replace the duplex drive motor assembly if problem remains. Go to **"Duplex drive motor assembly removal" on page 4-9**.
230.10	Internal duplex drive motor control failure. Source = Internal duplex	The internal duplex drive motor motor does not reach the proper operating speed at the specified time.	1. Remove all media present in media path. 2. Check all connections on the duplex media entrance drive motor assembly. 3. Check all connections on the system card assembly. 4. Replace the duplex media entrance drive motor assembly if problem remains. Go to **"Duplex drive motor assembly removal" on page 4-9**.
230.13	sensor (duplex input) static jam Source = Internal duplex	Media remains on the sensor (duplex input) during the warm up sequence.	Go to sensor (duplex input) static jam service check. See **"Sensor (duplex input) lingering jam service check" on page 2-139**.
230.14	Paper jam around internal duplex. Source = Internal duplex	Page may be jammed in internal duplex area.	1. Remove all media present in media path. 2. Check for obstructions in media path. 3. Go to sensor (fuser output) service check. See **"Sensor (fuser output) service check" on page 2-107**. 4. Go to sensor (duplex input) service check. See **"Sensor (duplex input) service check" on page 2-108**.
230.18	Internal duplex drive motor assembly underspeed error. Source = Internal duplex	The internal duplex drive motor does not rotate at the specified speed.	1. Remove all media present in media path. 2. Check all connections on the duplex media entrance drive motor assembly. 3. Check all connections on the system card assembly. 4. Replace the duplex media entrance drive motor assembly if problem remains. Go to **"Duplex drive motor assembly removal" on page 4-9**.

Error code or message	Error contents	Description/Action	Possible repair actions
230.20	Internal duplex drive motor lost encoder failure Source = Internal duplex	The internal duplex drive motor is not reporting pulses back to the engine.	1. Remove all media present in media path. 2. Check all connections on the duplex media entrance drive motor assembly. 3. Check all connections on the system card assembly. 4. Replace the duplex drive motor assembly if problem remains. Go to **"Duplex drive motor assembly removal" on page 4-9**.
231.00	Sensor (duplex input) late jam Source = External duplex	Media is late reaching the sensor (duplex input) within the specified time.	Go to sensor (duplex input) late jam service check. See **"Sensor (duplex input) late jam service check" on page 2-137**.
232.00	Sensor (duplex input) lingering jam Source = External duplex	Media reached the sensor (duplex input) but did not clear it in the specified time.	Go to sensor (duplex input) lingering jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
233.00	Sensor (duplex double-feed) late jam Source = External duplex	Media is late reaching the sensor (duplex double-feed) within the specified time.	1. Remove all media present in media path. 2. Check for obstructions in media path. 3. Ensure the external duplex assembly is properly installed. 4. Ensure the rear door of the external duplex is fully closed. 5. Check all connections on the external duplex assembly. 6. Replace the external duplex assembly if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
234.00	Sensor (duplex exit) late jam Source = External duplex	Media is late reaching the sensor (duplex exit) within the specified time.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Ensure the rear door of the external duplex is fully closed. 6. Check sensor (duplex exit) for proper operation. See **"Sensor (duplex exit) service check (external duplex only)" on page 2-109**. 7. Check all connections on the external duplex assembly. 8. Replace the external duplex assembly if problem remains.
235.00	Sensor (duplex double-feed) lingering jam Source = External duplex	Media reached the sensor (duplex double-feed) within the specified time but did not clear it within the specified time.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Replace the external duplex assembly if problem remains.
236.00	Sensor (duplex exit) lingering jam Source = External duplex	Media reached the sensor (duplex exit) within the specified time but did not clear it within the specified time.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Check sensor (duplex exit) for proper operation.See **"Sensor (duplex exit) service check (external duplex only)" on page 2-109**. 6. Replace the external duplex assembly if problem remains.
237.00	Sensor (input) late jam from duplex Source = External duplex	Media is late reaching the sensor (input) within the specified time during the second side printing using the external duplex.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.

Error code or message	Error contents	Description/Action	Possible repair actions
237.07	Paper jam around external duplex Source = External duplex.	Page may be jammed in external duplex area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Ensure the rear door of the external duplex is fully closed. 6. Ensure the external duplex tray is fully closed. 7. Ensure the media tray 1 is fully closed. 8. Check the lower option drive (PTO) assembly for damage. 9. Check all connections on the external duplex assembly. 10. Replace the external duplex assembly if problem remains.
238.00	External duplex sensor static jam Source = External duplex	Media remains on a sensor within the external duplex assembly during the warm up sequence.	1. Remove all media present in media path. 2. Replace the external duplex assembly if problem remains.
238.01	Sensor (duplex input) static jam Source = External duplex	Media remains on the sensor (duplex input) during the warm up sequence.	Go to sensor (duplex input) static jam service check. See **"Sensor (duplex input) lingering jam service check" on page 2-139**.
238.02	Sensor (duplex exit) static jam Source = External duplex	Media remains on the sensor (duplex exit) during the warm up sequence.	1. Remove all media present in media path. 2. Go to sensor (duplex exit) service check. See **"Sensor (duplex exit) service check (external duplex only)" on page 2-109**. 3. Replace the external duplex assembly if problem remains.
238.03	Sensor (duplex input) static jam Sensor (duplex exit) static jam Source = External duplex	Media remains on the sensor (duplex input) and the sensor (duplex exit) during the warm up sequence.	Go to sensor (duplex input) static jam service check. See **"Sensor (duplex input) lingering jam service check" on page 2-139**.

Error code or message	Error contents	Description/Action	Possible repair actions
238.04	Sensor (duplex double-feed) static jam Source = External duplex	Media remains on the sensor (duplex double-feed) during the warm up sequence.	1. Remove all media present in media path. 2. Replace the external duplex assembly if problem remains.
238.05	Sensor (duplex input) static jam Sensor (double-feed) static jam Source = External duplex	Media remains on the sensor (duplex input) and the sensor (double-feed) during the warm up sequence.	1. Remove all media present in media path. 2. Go to sensor (duplex input) static jam service check. See **"Sensor (duplex input) lingering jam service check" on page 2-139**.
238.06	Sensor (duplex exit) static jam Sensor (double-feed) static jam Source = External duplex	Media remains on the sensor (duplex exit) and the sensor (double-feed) during the warm up sequence.	1. Remove all media present in media path. 2. Go to sensor (duplex exit) service check. See **"Sensor (duplex exit) service check (external duplex only)" on page 2-109**. 3. Replace the external duplex assembly if problem remains.
238.07	Sensor (duplex input) static jam Sensor (double-feed) static jam Sensor (duplex exit) Source = External duplex	Media remains on the sensor (duplex input), sensor (double-feed) and the sensor (duplex exit) during the warm up sequence.	Go to sensor (duplex input) static jam service check. See **"Sensor (duplex input) lingering jam service check" on page 2-139**.
239.00	Mechanical feed error or timing error. Source = External duplex	Mechanical feed error or timing error.	1. Remove all media present in media path. 2. Check sensor (duplex input) for proper operation. See **"Sensor (duplex input) service check" on page 2-108**. 3. Check sensor (duplex exit) for proper operation. See **"Sensor (duplex exit) service check (external duplex only)" on page 2-109**. 4. Replace the external duplex assembly if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
239.01	External duplex assembly error Source = External duplex	Mechanical feed error or timing error.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Ensure the rear door of the external duplex is fully closed. 6. Check all connections on the external duplex assembly. 7. Replace the external duplex assembly if problem remains.
239.02	External duplex assembly error Source = External duplex	Mechanical feed error or timing error.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Ensure the rear door of the external duplex is fully closed. 6. Check all connections on the external duplex assembly. 7. Replace the external duplex assembly if problem remains.
239.03	Device controls response error. Source = External duplex	Mechanical feed error or timing error.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Ensure the rear door of the external duplex is fully closed. 6. Check all connections on the external duplex assembly. 7. Replace the external duplex assembly if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
239.04	Input device ready response error. Source = External duplex	Mechanical feed error or timing error.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Ensure the rear door of the external duplex is fully closed. 6. Check all connections on the external duplex assembly. 7. Replace the external duplex assembly if problem remains.
239.05	Output device response error. Source = External duplex	Mechanical feed error or timing error.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Ensure the rear door of the external duplex is fully closed. 6. Check all connections on the external duplex assembly. 7. Replace the external duplex assembly if problem remains.
239.06	Failed the last page of a staple job. Source = External duplex	Mechanical feed error or timing error.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Ensure the rear door of the external duplex is fully closed. 6. Check all connections on the external duplex assembly. 7. Replace the external duplex assembly if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
239.07	Select output device error. Source = External duplex	Mechanical feed error or timing error.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Ensure the rear door of the external duplex is fully closed. 6. Check all connections on the external duplex assembly. 7. Replace the external duplex assembly if problem remains.
239.08	Input source ready error. Source = External duplex	Mechanical feed error or timing error.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path. 4. Ensure the external duplex assembly is properly installed. 5. Ensure the rear door of the external duplex is fully closed. 6. Check all connections on the external duplex assembly. 7. Replace the external duplex assembly if problem remains.
239.11	Sensor (input) late jam from duplex Source = External duplex	Media is late reaching the sensor (input) within the specified time during the second side printing using the external duplex.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
241.00	Media tray 1 area jam Source = Tray 1	The media is jammed in the media tray 1 area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path.

Error code or message	Error contents	Description/Action	Possible repair actions
241.01	Pick motor control failure. Media tray 1	The pick motor does not reach the proper operating speed at the specified time.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
241.06	Sensor (input) late jam Source = Tray 1 or MPF	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
241.07	Pick motor load error Source = Media tray 1	The pick motor has failed or caused high mechanical load due to paper jam or bind.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check, clean or replace the pick rolls for wear and excess contamination. Go to **"Pick roll assembly removal" on page 4-31**. 4. Check all connections on the pick arm assembly. 5. Check all connections on the system card assembly. 6. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 7. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
241.08	Pick motor load error Source = Media tray 1	The pick motor has failed or caused high mechanical load due to paper jam or bind.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check, clean or replace the pick rolls for wear and excess contamination. Go to **"Pick roll assembly removal" on page 4-31**. 4. Check all connections on the pick arm assembly. 5. Check all connections on the system card assembly. 6. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 7. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
241.10	Sensor (input) late jam Source = Tray 1	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
241.11	Sensor (input) late jam Source = Tray 1	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
241.12	Sensor (input) late jam Source = Tray 1 or envelope feeder	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
241.14	Sensor (input) late jam Source = Tray 1 or envelope feeder	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
241.15	Sensor (input) late jam Source = Tray 1 or envelope feeder	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
241.16	Sensor (input) late jam Source = Tray 1	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.

Error code or message	Error contents	Description/Action	Possible repair actions
241.18	Sensor (input) late jam Source = Tray 1	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
241.19	Pick motor control failure. Source = Tray 1	The pick motor does not reach the proper operating speed at the specified time.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
241.20	Tray 1 pick motor lost encoder failure Source = Tray 1	The pick motor is not reporting pulses back to the engine.	1. Check all connections on the pick arm assembly. 2. Check all connections on the system card assembly. 3. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**.
242.00	Media tray 2 area jam Source = Tray 2	The media is jammed in the media tray 2 area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path.
242.02	Sensor (pass through) late jam Source = Tray 2	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
242.03	Sensor (pass through) late jam Source = Tray 2	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
242.04	Sensor (pass through) late jam Source = Tray 2	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.

Error code or message	Error contents	Description/Action	Possible repair actions
242.05	Sensor (pass through) late jam Source = Tray 2	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
242.06	Sensor (pass through) late jam Source = Tray 2	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
242.08	Sensor (pass through) lingering jam Source = Tray 2	Media reached the sensor (pass through) within the specified time but did not clear it within the specified time.	Go to sensor (pass through) lingering jam service check. See **"Sensor (pass through) lingering jam service check" on page 2-142**.
242.09	Sensor (input) late jam Source = Tray 2	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
242.10	sensor (pass through) late jam Source = Tray 2	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
242.13	Sensor (pass through) static jam Source = Tray 2	Media remains on the sensor (input) during the warm up sequence.	Go to sensor (pass through) static jam service check. See **"Sensor (pass through) static jam service check" on page 2-143**.
242.16	sensor (pass through) late jam Source = Tray 2	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
242.17	Media tray pulled jam Source = Tray 2	A media tray above the source tray was pulled during the printing process.	1. Remove all media present in media path. 2. Close all media trays.
242.18	Pick retry timeout Source = Tray 2	The engine timed out waiting for the tray 2 to report ready before the first pick attempt.	Turn the machine off/on.
242.19	Pick retry timeout Source = Tray 2	The engine timed out waiting for the tray 2 to report ready before a pick retry attempt.	Turn the machine off/on.

Error code or message	Error contents	Description/Action	Possible repair actions
242.52	Tray 2 pick motor overrun failure Source = Tray 2	The Pick motor encoder continues to detect pulses after the motor was turned off.	1. Check all connections on the pick arm assembly. 2. Check all connections on the system card assembly. 3. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**.
242.33	Tray 2 not ready Source = Tray 2	Tray was not properly pushed into the machine.	1. Check the size sensing fingers on the media tray for damage 2. Replace the media tray assembly if problem remains. 3. Check the switch (media size) for proper connection. 4. Replace the switch (media size) if problem remains. Go to **"Switch (media size) assembly removal" on page 4-45**.
242.34	Empty tray pick attempted Source = Tray 2	The pick arm attempted to pick with no media in the tray.	1. Check the media out actuator for damage. 2. Replace the media out actuator if problem remains. Go to **"Media out actuator removal" on page 4-23**.
242.36	Sensor (pass through) static jam Source = Tray 2	Media remains on the sensor (input) during the warm up sequence.	Go to sensor (pass through) static jam service check. See **"Sensor (pass through) static jam service check" on page 2-143**.
242.37	Sensor (pass through) late jam Source = Tray 2	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
242.39	Media tray pulled jam	A media tray above the source tray was pulled during the printing process.	1. Remove all media present in media path. 2. Close all media trays.
242.40	Sensor (pass through) lingering jam Source = Tray 2	Media reached the sensor (pass through) within the specified time but did not clear it within the specified time.	Go to sensor (pass through) lingering jam service check. See **"Sensor (pass through) lingering jam service check" on page 2-142**.

Error code or message	Error contents	Description/Action	Possible repair actions
242.49	HCIT tray lift motor stalled failure Source = Tray 2	The HCIT tray lift motor has stalled or has become obstructed.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.
242.50	HCIT tray lift motor underspeed failure Source = Tray 2	The HCIT tray lift motor does not rotate at the specified speed.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift drive motor assembly for binding or damage. 3. Replace the HCIT tray lift motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.
242.52	HCIT tray lift motor overrun failure Source = Tray 2	The HCIT tray lift motor continues to detect pulses after the motor has turned off.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.

Error code or message	Error contents	Description/Action	Possible repair actions
242.65	Pick motor load error Source = Media tray 2	The pick motor has failed or caused high mechanical load due to paper jam or bind.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check, clean or replace the pick rolls for wear and excess contamination. Go to **"Pick roll assembly removal" on page 4-31**. 4. Check all connections on the pick arm assembly. 5. Check all connections on the system card assembly. 6. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 7. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
242.66	Pick motor underspeed failure Source = Media tray 2	The pick motor does not rotate at the specified speed.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
242.67	Pick motor overspeed failure Source = Media tray 2	The pick motor does not rotate at the specified speed.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
242.68	Pick motor stop error Source = Media tray 2	Pick motor stop error detected by options tray x	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
242.69	Pick motor control failure. Source = Media tray 2	The pick motor does not reach the proper operating speed at the specified time.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
243.00	Media tray 3 area jam	The media is jammed in the media tray 3 area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path.
243.02	Sensor (pass through) late jam Source = Tray 3	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
243.03	Sensor (pass through) late jam Source = Tray 3	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
243.04	Sensor (pass through) late jam Source = Tray 3	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.

Error code or message	Error contents	Description/Action	Possible repair actions
243.05	Sensor (pass through) late jam Source = Tray 3	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
243.06	Sensor (pass through) late jam Source = Tray 3	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
243.08	Sensor (pass through) lingering jam Source = Tray 3	Media reached the sensor (pass through) within the specified time but did not clear it within the specified time.	Go to sensor (pass through) lingering jam service check. See **"Sensor (pass through) lingering jam service check" on page 2-142**.
243.10	Sensor (pass through) late jam Source = Tray 3	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
243.13	Sensor (pass through) static jam Source = Tray 3	Media remains on the sensor (input) during the warm up sequence.	Go to sensor (pass through) static jam service check. See **"Sensor (pass through) static jam service check" on page 2-143**.
243.16	Sensor (pass through) late jam Source = Tray 3	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
243.17	Media tray pulled jam Source = Tray 3	A media tray above the source tray was pulled during the printing process.	1. Remove all media present in media path. 2. Close all media trays.
243.18	Pick retry timeout Source = Tray 3	The engine timed out waiting for the tray 3 to report ready before the first pick attempt.	Turn the machine off/on.
243.19	Pick retry timeout Source = Tray 3	The engine timed out waiting for the tray 3 to report ready before a pick retry attempt.	Turn the machine off/on.
243.33	Tray 3 not ready Source = Tray 3	Tray was not properly pushed into the machine.	1. Check the size sensing fingers on the media tray for damage 2. Replace the media tray assembly if problem remains. 3. Check the switch (media size) for proper connection. 4. Replace the switch (media size) if problem remains. Go to **"Switch (media size) assembly removal" on page 4-45**.

Error code or message	Error contents	Description/Action	Possible repair actions
243.34	Empty tray pick attempted Source = Tray 3	The pick arm attempted to pick with no media in the tray.	1. Check the media out actuator for damage. 2. Replace the media out actuator if problem remains. Go to **"Media out actuator removal" on page 4-23**.
243.36	Sensor (pass through) static jam Source = Tray 3	Media remains on the sensor (input) during the warm up sequence.	Go to sensor (pass through) static jam service check. See **"Sensor (pass through) static jam service check" on page 2-143**.
243.37	Sensor (pass through) late jam Source = Tray 3	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
243.39	Media tray pulled jam Source = Tray 3	A media tray above the source tray was pulled during the printing process.	1. Remove all media present in media path. 2. Close all media trays.
243.40	Sensor (pass through) lingering jam Source = Tray 3	Media reached the sensor (pass through) within the specified time but did not clear it within the specified time.	Go to sensor (pass through) lingering jam service check. See **"Sensor (pass through) lingering jam service check" on page 2-142**.
243.49	HCIT tray lift motor stalled failure Source = Tray 3	The HCIT tray lift motor has stalled or has become obstructed.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.
243.50	HCIT tray lift motor underspeed failure Source = Tray 3	The HCIT tray lift motor does not rotate at the specified speed.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.

Error code or message	Error contents	Description/Action	Possible repair actions
243.52	HCIT tray lift motor overrun failure Source = Tray 3	The HCIT tray lift motor continues to detect pulses after the motor has turned off.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.
243.65	Pick motor load error Source = Media tray 3	The pick motor has failed or caused high mechanical load due to paper jam or bind.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check, clean or replace the pick rolls for wear and excess contamination. Go to **"Pick roll assembly removal" on page 4-31**. 4. Check all connections on the pick arm assembly. 5. Check all connections on the system card assembly. 6. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 7. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
243.66	Pick motor underspeed failure Source = Media tray 3	The pick motor does not rotate at the specified speed.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
243.67	Pick motor overspeed failure Source = Media tray 3	The pick motor does not rotate at the specified speed.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
243.68	Pick motor stop error Source = Media tray 3	Pick motor stop error detected by options tray x	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
243.69	Pick motor control failure. Source = Media tray 3	The pick motor does not reach the proper operating speed at the specified time.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
244.00	Media tray 4 area jam	The media is jammed in the media tray 4 area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path.
244.02	Sensor (pass through) late jam Source = Tray 4	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
244.03	Sensor (pass through) late jam Source = Tray 4	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
244.04	Sensor (pass through) late jam Source = Tray 4	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
244.05	Sensor (pass through) late jam Source = Tray 4	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
244.06	Sensor (pass through) late jam Source = Tray 4	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
244.08	Sensor (pass through) lingering jam Source = Tray 4	Media reached the sensor (pass through) within the specified time but did not clear it within the specified time.	Go to sensor (pass through) lingering jam service check. See **"Sensor (pass through) lingering jam service check" on page 2-142**.
244.10	Sensor (pass through) late jam Source = Tray 4	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
244.13	Sensor (pass through) static jam Source = Tray 4	Media remains on the sensor (input) during the warm up sequence.	Go to sensor (pass through) static jam service check. See **"Sensor (pass through) static jam service check" on page 2-143**.
244.16	Sensor (pass through) late jam Source = Tray 4	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.

Error code or message	Error contents	Description/Action	Possible repair actions
244.17	Media tray pulled jam	A media tray above the source tray was pulled during the printing process.	1. Remove all media present in media path. 2. Close all media trays.
244.18	Pick retry timeout Source = Tray 4	The engine timed out waiting for the tray 4 to report ready before the first pick attempt.	Turn the machine off/on.
244.19	Pick retry timeout Source = Tray 4	The engine timed out waiting for the tray 4 to report ready before a pick retry attempt.	Turn the machine off/on.
244.33	Tray 4 not ready Source = Tray 4	Tray was not properly pushed into the machine.	1. Check the size sensing fingers on the media tray for damage 2. Replace the media tray assembly if problem remains. 3. Check the switch (media size) for proper connection. 4. Replace the switch (media size) if problem remains. Go to **"Switch (media size) assembly removal" on page 4-45**.
244.34	Empty tray pick attempted Source = Tray 4	The pick arm attempted to pick with no media in the tray.	1. Check the media out actuator for damage. 2. Replace the media out actuator if problem remains. Go to **"Media out actuator removal" on page 4-23**.
244.36	Sensor (pass through) static jam Source = Tray 4	Media remains on the sensor (input) during the warm up sequence.	Go to sensor (pass through) static jam service check. See **"Sensor (pass through) static jam service check" on page 2-143**.
244.37	Sensor (pass through) late jam Source = Tray 4	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
244.39	Media tray pulled jam Source = Tray 4	A media tray above the source tray was pulled during the printing process.	1. Remove all media present in media path. 2. Close all media trays.
244.40	Sensor (pass through) lingering jam Source = Tray 4	Media reached the sensor (pass through) within the specified time but did not clear it within the specified time.	Go to sensor (pass through) lingering jam service check. See **"Sensor (pass through) lingering jam service check" on page 2-142**.

Error code or message	Error contents	Description/Action	Possible repair actions
244.49	HCIT tray lift motor stalled failure Source = Tray 4	The HCIT tray lift motor has stalled or has become obstructed.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.
244.50	HCIT tray lift motor underspeed failure Source = Tray 4	The HCIT tray lift motor does not rotate at the specified speed.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.
244.52	HCIT tray lift motor overrun failure Source = Tray 4	The HCIT tray lift motor continues to detect pulses after the motor has turned off.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.

Error code or message	Error contents	Description/Action	Possible repair actions
244.65	Pick motor load error Source = Media tray 4	The pick motor has failed or caused high mechanical load due to paper jam or bind.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check, clean or replace the pick rolls for wear and excess contamination. Go to **"Pick roll assembly removal" on page 4-31**. 4. Check all connections on the pick arm assembly. 5. Check all connections on the system card assembly. 6. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 7. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
244.66	Pick motor underspeed failure Source = Media tray 4	The pick motor does not rotate at the specified speed.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
244.67	Pick motor overspeed failure Source = Media tray 4	The pick motor does not rotate at the specified speed.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
244.68	Pick motor stop error Source = Media tray 4	Pick motor stop error detected by options tray x	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
244.69	Pick motor control failure. Source = Media tray 4	The pick motor does not reach the proper operating speed at the specified time.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
245.00	Media tray 5 area jam	The media is jammed in the media tray 5 area.	1. Remove all media present in media path. 2. Check media for proper installation. 3. Check for obstructions in media path.
245.02	Sensor (pass through) late jam Source = Tray 5	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
245.03	Sensor (pass through) late jam Source = Tray 5	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
245.04	Sensor (pass through) late jam Source = Tray 5	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.

Error code or message	Error contents	Description/Action	Possible repair actions
245.05	Sensor (pass through) late jam Source = Tray 5	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
245.06	Sensor (pass through) late jam Source = Tray 5	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
245.08	Sensor (pass through) lingering jam Source = Tray 5	Media reached the sensor (pass through) within the specified time but did not clear it within the specified time.	Go to sensor (pass through) lingering jam service check. See **"Sensor (pass through) lingering jam service check" on page 2-142**.
245.10	Sensor (pass through) late jam Source = Tray 5	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
245.13	Sensor (pass through) static jam Source = Tray 5	Media remains on the sensor (input) during the warm up sequence.	Go to sensor (pass through) static jam service check. See **"Sensor (pass through) static jam service check" on page 2-143**.
245.16	Sensor (pass through) late jam Source = Tray 5	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
245.17	Media tray pulled jam Source = Tray 5	A media tray above the source tray was pulled during the printing process.	1. Remove all media present in media path. 2. Close all media trays.
245.18	Pick retry timeout Source = Tray 5	The engine timed out waiting for the tray 5 to report ready before the first pick attempt.	Turn the machine off/on.
245.19	Pick retry timeout Source = Tray 5	The engine timed out waiting for the tray 5 to report ready before a pick retry attempt.	Turn the machine off/on.
245.33	Tray 5 not ready Source = Tray 5	Tray was not properly pushed into the machine.	1. Check the size sensing fingers on the media tray for damage 2. Replace the media tray assembly if problem remains. 3. Check the switch (media size) for proper connection. 4. Replace the switch (media size) if problem remains. Go to **"Switch (media size) assembly removal" on page 4-45**.

Error code or message	Error contents	Description/Action	Possible repair actions
245.34	Empty tray pick attempted Source = Tray 5	The pick arm attempted to pick with no media in the tray.	1. Check the media out actuator for damage. 2. Replace the media out actuator if problem remains. Go to **"Media out actuator removal" on page 4-23**.
345.36	Sensor (pass through) static jam Source = Tray 5	Media remains on the sensor (input) during the warm up sequence.	Go to sensor (pass through) static jam service check. See **"Sensor (pass through) static jam service check" on page 2-143**.
245.37	Sensor (pass through) late jam Source = Tray 5	The media is late reaching the sensor (pass through) within the specified time.	Go to sensor (pass through) late jam service check. See **"Sensor (pass through) late jam service check" on page 2-141**.
245.39	Media tray pulled jam Source = Tray 5	A media tray above the source tray was pulled during the printing process.	1. Remove all media present in media path. 2. Close all media trays.
245.40	Sensor (pass through) lingering jam Source = Tray 5	Media reached the sensor (pass through) within the specified time but did not clear it within the specified time.	Go to sensor (pass through) lingering jam service check. See **"Sensor (pass through) lingering jam service check" on page 2-142**.
245.49	HCIT tray lift motor stalled failure Source = Tray 5	The HCIT tray lift motor has stalled or has become obstructed.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.
245.50	HCIT tray lift motor underspeed failure Source = Tray 5	The HCIT tray lift motor does not rotate at the specified speed.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.

Error code or message	Error contents	Description/Action	Possible repair actions
245.52	HCIT tray lift motor overrun failure Source = Tray 5	The HCIT tray lift motor continues to detect pulses after the motor has turned off.	1. Ensure the HCIT media tray assembly is properly inserted into the machine. 2. Check the HCIT tray lift motor assembly for binding or damage. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.
245.65	Pick motor load error Source = Media tray 5	The pick motor has failed or caused high mechanical load due to paper jam or bind.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check, clean or replace the pick rolls for wear and excess contamination. Go to **"Pick roll assembly removal" on page 4-31**. 4. Check all connections on the pick arm assembly. 5. Check all connections on the system card assembly. 6. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 7. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
245.66	Pick motor underspeed failure Source = Media tray 5	The pick motor does not rotate at the specified speed.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
245.67	Pick motor overspeed failure Source = Media tray 5	The pick motor does not rotate at the specified speed.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
245.68	Pick motor stop error Source = Media tray 5	Pick motor stop error detected by options tray x	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
245.69	Pick motor control failure. Source = Media tray 5	The pick motor does not reach the proper operating speed at the specified time.	1. Remove all media present in media path. 2. Ensure media tray is not overfilled. 3. Check all connections on the pick arm assembly. 4. Check all connections on the system card assembly. 5. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**. 6. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
250.00	MPF area jam Source = MPF	The media is jammed in the MPF area.	Go to sensor (input) service check. See **"Sensor (input) service check" on page 2-107**.

Error code or message	Error contents	Description/Action	Possible repair actions
250.03	Sensor (input) late jam Source = MPF	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
250.06	Sensor (input) late jam Source = MPF	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
250.07	Sensor (input) late jam Source = MPF	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
250.08	Sensor (input) late jam Source = MPF	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
250.09	Sensor (input) late jam Source = MPF	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
250.10	Sensor (input) late jam Source = MPF	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
250.11	Sensor (input) late jam Source = MPF	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
260.00	Envelope feeder area jam	The media is jammed in the envelope feeder area.	1. Remove the envelope feeder. 2. Remove all media present in media path. 3. Check media for proper installation. 4. Check for obstructions in media path. 5. Go to sensor (input) service check. See **"Sensor (input) service check" on page 2-107**.

Error code or message	Error contents	Description/Action	Possible repair actions
260.01	Envelope feeder assembly error	Mechanical feed error or timing error.	1. Remove the envelope feeder. 2. Remove all media present in media path. 3. Check media for proper installation. 4. Check for obstructions in media path. 5. Ensure the envelope feeder assembly is properly installed. 6. Check all connections on the envelope feeder assembly. 7. Replace the envelope feeder assembly if problem remains.
260.02	Envelope feeder assembly error	Mechanical feed error or timing error.	1. Remove the envelope feeder. 2. Remove all media present in media path. 3. Check media for proper installation. 4. Check for obstructions in media path. 5. Ensure the envelope feeder assembly is properly installed. 6. Check all connections on the envelope feeder assembly. 7. Replace the envelope feeder assembly if problem remains.
260.05	Sensor (envelope feeder pass through) lingering jam Source = Envelope feeder	The media reached the sensor (envelope feeder pass through) but did not clear it in the specified time.	1. Remove the envelope feeder. 2. Remove all media present in media path. 3. Check for obstructions in media path. 4. Ensure the envelope feeder assembly is properly installed. 5. Check all connections on the envelope feeder assembly. 6. Replace the envelope feeder assembly if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
260.06	Sensor (envelope feeder pass through) late jam Source = Envelope feeder	The media is late reaching the sensor (envelope feeder pass through) within the specified time.	1. Remove the envelope feeder. 2. Remove all media present in media path. 3. Ensure envelope feeder is not overfilled. 4. Check, clean or replace the envelope feeder pick roll for wear and excess contamination. 5. Check all connections on the envelope feeder. 6. Check all connections on the system card assembly. 7. Replace the envelope feeder assembly if problem remains. 8. Replace system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
260.07	Sensor (input) late jam Source = Envelope feeder	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
260.10	Sensor (input) late jam Source = Envelope feeder	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
260.11	Sensor (input) late jam Source = Envelope feeder	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
260.12	Sensor (input) late jam Source = Envelope feeder	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
260.13	sensor (envelope feeder pass through) static jam	Media remains on the sensor (envelope feeder pass through) during the warm up sequence.	1. Remove the envelope feeder. 2. Remove all media present in media path. 3. Replace the envelope feeder is problem remains.
260.14	Sensor (input) late jam Source = Envelope feeder	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.

Error code or message	Error contents	Description/Action	Possible repair actions
260.15	Sensor (input) late jam Source = Envelope feeder	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
260.16	Sensor (input) late jam Source = Envelope feeder	The media is late reaching the sensor (input) within the specified time.	Go to sensor (input) late jam service check. See **"Sensor (input) late jam service check" on page 2-127**.
271.03 x = bin number	Sensor (output pass through) lingering jam Applies to: High capacity output Output expander	The media reached the sensor (output pass through) but did not clear it in the specified time.	See **"Sensor (output pass through) lingering jam service check" on page 2-146**.
271.04 x = bin number	Sensor (output pass through) late jam Applies to: High capacity output Output expander	The media is late reaching the sensor (output pass through) within the specified time.	See **"Sensor (output pass through) late jam service check" on page 2-145**.
271.05 x = bin number	Sensor (output pass through) lingering jam Applies to: High capacity output Output expander	The media reached the sensor (output pass through) but did not clear it in the specified time.	See **"Sensor (output pass through) lingering jam service check" on page 2-146**.
27x.14 x = bin number	Sensor (output pass through) static jam Applies to: High capacity stacker Mailbox Offset stacker Output expander Sensor (mailbox empty) static jam Applies to: Mailbox	Media remains on the sensor (output pass through) during the warm up sequence. Media remains on the sensor (mailbox empty) during the warm up sequence.	See **"Sensor (output pass through) static jam service check" on page 2-146**. See **"Sensor (mailbox empty) static jam service check" on page 2-148**.

Error code or message	Error contents	Description/Action	Possible repair actions
27x.15 x = bin number	Sensor (output pass through) static jam Applies to: High capacity stacker Mailbox Offset stacker Output expander Sensor (mailbox empty) static jam Applies to: Mailbox	Media remains on the sensor (output pass through) during the warm up sequence. Media remains on the sensor (mailbox empty) during the warm up sequence.	See **"Sensor (output pass through) static jam service check" on page 2-146**. See **"Sensor (mailbox empty) static jam service check" on page 2-148**.
27x.29 x = bin number	Sensor (output pass through) lingering jam Applies to: Offset stacker Mailbox Output expander High capacity stacker	The media reached the sensor (output pass through) but did not clear it in the specified time.	See **"Sensor (output pass through) lingering jam service check" on page 2-146**.
27x.50 x = bin number	Sensor (output pass through) lingering jam Applies to: Mailbox	The media reached the sensor (output pass through) but did not clear it in the specified time.	See **"Sensor (output pass through) lingering jam service check" on page 2-146**.
27x.50 x = bin number	Left tamper does not leave home position failure Applies to: Offset stacker	The sensor (left tamper HP) does not detect that the tamper has moved from home position.	1. Check all the connections on the output option controller card. 2. Check the tamper drive belt for damage and replace if needed. 3. Replace the left tamper motor assembly. Go to **"MFP stapler assembly tamper drive motor assembly removal" on page 4-210**. 4. Replace the sensor (tamper HP). Go to **"MFP stapler assembly sensor (tamper HP left and right) removal" on page 4-217**. 4. Replace the output option if problem remains.
27x.51 x = bin number	Sensor (output pass through) late jam Applies to: Mailbox	The media is late reaching the sensor (output pass through) within the specified time.	See **"Sensor (output pass through) late jam service check" on page 2-145.**

Error code or message	Error contents	Description/Action	Possible repair actions
27x.51 x = bin number	Right tamper does not leave home position failure Applies to: Offset stacker	The sensor (right tamper HP) does not detect that the tamper has moved from home position.	1. Check all the connections on the output option controller card. 2. Check the tamper drive belt for damage and replace if needed. 3. Replace the right tamper motor assembly. Go to **"MFP stapler assembly tamper drive motor assembly removal" on page 4-210**. 4. Replace the sensor (tamper HP). Go to **"MFP stapler assembly sensor (tamper HP left and right) removal" on page 4-217**. 4. Replace the output option if problem remains.
271.52 x = bin number	Sensor (mailbox empty) lingering jam Applies to: Mailbox	The media reached the sensor (mailbox empty) but did not clear it in the specified time.	See **"Sensor (mailbox empty) lingering jam service check" on page 2-147**.
27x.53 x = bin number	Sensor (mailbox empty) late jam Applies to: Mailbox	The media is late reaching the sensor (mailbox empty) within the specified time.	See **"Sensor (mailbox empty) late jam service check" on page 2-147.**
27x.54 x = bin number	Sensor (output pass through) lingering jam Applies to: Mailbox	The media reached the sensor (output pass through) but did not clear it in the specified time.	See **"Sensor (output pass through) lingering jam service check" on page 2-146**.
27x.55 x = bin number	Sensor (mailbox empty) lingering jam Applies to: Mailbox	The media reached the sensor (mailbox empty) but did not clear it in the specified time.	See **"Sensor (mailbox empty) lingering jam service check" on page 2-147**.
27x.58 x = bin number	Sensor (output pass through) late jam Applies to: Mailbox High capacity stacker Offset stacker Output expander	The media is late reaching the sensor (output pass through) within the specified time.	See **"Sensor (output pass through) late jam service check" on page 2-145**.
28x.25 x = bin number	Invalid ejector motor manager status. Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.26 x = bin number	Timer 0 overflow (1ms timer did not get serviced for an entire 1ms) Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.27 x = bin number	Invalid paddle motor manager status. Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.28 x = bin number	Invalid main motor manager state Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.29 x = bin number	Sensor (stapler pass through) lingering jam Applies to: StapleSmart finisher	The media reached the sensor (stapler pass through) but did not clear it in the specified time.	See **"Sensor (stapler pass through) lingering jam service check" on page 2-144**.
28x.30 x = bin number	Page ID complete not clear Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.31 x = bin number	Transport motor encoder not detected Applies to: StapleSmart finisher	The output option transport motor encoder is not detected upon startup.	1. Check all connections on the output option controller card. 2. Replace the output option if problem remains.
28x.32 x = bin number	Transport motor encoder not detected Applies to: StapleSmart finisher	The transport motor encoder detection is lost during normal operation.	1. Check all connections on the output option controller card. 2. Replace the output option if problem remains.
28x.33 x = bin number	Transport motor overspeed failure Applies to: StapleSmart finisher	The transport motor rotate at the specified speed	1. Check all connections on the output option controller card. 2. Replace the output option if problem remains.
28x.34 x = bin number	Transport motor underspeed failure Applies to: StapleSmart finisher	The transport motor rotate at the specified speed	1. Check all connections on the output option controller card. 2. Replace the output option if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.35 x = bin number	Sensor (self priming) late failure Applies to: StapleSmart finisher	The sensor (self priming) within the stapler assembly does not detect a ready staple in the specified time.	1. Check all the connections on the output option controller card and the stapler assembly. 2. Remove the staple cartridge and remove all jammed staples. If the cartridge is jammed and can not be removed, go to step 3. 3. Remove the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**. 4. Manually rotate the drive gears and reset the stapler. Remove all jammed staples then reinstall the stapler assembly. 5. If problem remains, replace the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**.
28x.36 x = bin number	Stapler drive motor jammed Applies to: StapleSmart finisher	The stapler assembly has jammed while stapling or the stapler drive motor has failed.	1. Check all the connections on the controller card and the stapler assembly. 2. Remove the staple cartridge and remove all jammed staples. If the cartridge is jammed and can not be removed, go to step 3. 3. Remove the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**. 4. Manually rotate the drive gears and reset the stapler. Remove all jammed staples then reinstall the stapler assembly. 5. If problem remains, replace the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**.
28x.37 x = bin number	Invalid tamper motor manager status Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.38 x = bin number	Staple ready home position jam Applies to: StapleSmart finisher	The sensor (self priming) within the stapler assembly does not detect a ready staple in the specified time after the staple job was sent.	1. Check all the connections on the controller card and the stapler assembly. 2. Remove the staple cartridge and remove all jammed staples. If the cartridge is jammed and can not be removed, go to step 3. 3. Remove the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**. 4. Manually rotate the drive gears and reset the stapler. Remove all jammed staples then reinstall the stapler assembly. 5. If problem remains, replace the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**.
28x.39 x = bin number	Staple ready home position jam Applies to: StapleSmart finisher	The sensor (self priming) within the stapler assembly does not detect a ready staple in the specified time during mechanical reset.	1. Check all the connections on the controller card and the stapler assembly. 2. Remove the staple cartridge and remove all jammed staples. If the cartridge is jammed and can not be removed, go to step 3. 3. Remove the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**. 4. Manually rotate the drive gears and reset the stapler. Remove all jammed staples then reinstall the stapler assembly. 5. If problem remains, replace the stapler unit assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.40 x = bin number	Left tamper does not leave home position failure Applies to: StapleSmart finisher	The sensor (left tamper HP) does not detect that the tamper has moved from home position.	1. Check all the connections on the output option controller card. 2. Check the tamper drive belt for damage and replace if needed. 3. Replace the left tamper motor assembly. Go to **"MFP stapler assembly tamper drive motor assembly removal" on page 4-210**. 4. Replace the sensor (tamper HP). Go to **"MFP stapler assembly sensor (tamper HP left and right) removal" on page 4-217**. 4. Replace the output option if problem remains.
28x.41 x = bin number	Left tamper does not move to home position failure. Applies to: StapleSmart finisher	The sensor (left tamper HP) does not detect that the tamper has reached home position.	1. Check all the connections on the output option controller card. 2. Check the tamper drive belt for damage and replace if needed. 3. Replace the left tamper motor assembly. Go to **"MFP stapler assembly tamper drive motor assembly removal" on page 4-210**. 4. Replace the sensor (tamper HP). Go to **"MFP stapler assembly sensor (tamper HP left and right) removal" on page 4-217**. 4. Replace the output option if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.42 x = bin number	Right tamper does not leave home position failure Applies to: StapleSmart finisher	The sensor (right tamper HP) does not detect that the tamper has moved from home position.	1. Check all the connections on the output option controller card. 2. Check the tamper drive belt for damage and replace if needed. 3. Replace the right tamper motor assembly. Go to **"MFP stapler assembly tamper drive motor assembly removal" on page 4-210**. 4. Replace the sensor (tamper HP). Go to **"MFP stapler assembly sensor (tamper HP left and right) removal" on page 4-217**. 4. Replace the output option if problem remains.
28x.43 x = bin number	Right tamper does not move to home position failure. Applies to: StapleSmart finisher	The sensor (right tamper HP) does not detect that the tamper has reached home position.	1. Check all the connections on the output option controller card. 2. Check the tamper drive belt for damage and replace if needed. 3. Replace the right tamper motor assembly. Go to **"MFP stapler assembly tamper drive motor assembly removal" on page 4-210**. 4. Replace the sensor (tamper HP). Go to **"MFP stapler assembly sensor (tamper HP left and right) removal" on page 4-217**. 4. Replace the output option if problem remains.
28x.44 x = bin number	Eject home position jam Applies to: StapleSmart finisher	The sensor (eject HP) does not detect that the eject mechanism is operating.	1. Check all the connections on the output option controller card. 2. Replace the output option if problem remains.
28x.45 x = bin number	Eject home position jam Applies to: StapleSmart finisher	The sensor (eject HP) does not detect the home position upon completion of normal media eject operation.	1. Check all the connections on the output option controller card. 2. Replace the output option if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.46 x = bin number	Paddle home position jam Applies to: StapleSmart finisher	The sensor (paddle HP) does not detect that the paddle is operating.	1. Check all the connections on the output option controller card. 2. Check the sensor (paddle HP) for damage and replace if needed. Go to **"MFP stapler assembly sensor (paddle HP) removal" on page 4-215**. 3. Replace the output option if problem remains.
28x.47 x = bin number	Paddle home position jam Applies to: StapleSmart finisher	The sensor (paddle HP) does not detect the home position upon completion of normal paddle operation.	1. Check all the connections on the output option controller card. 2. Check the sensor (paddle HP) for damage and replace if needed. Go to **"MFP stapler assembly sensor (paddle HP) removal" on page 4-215**. 3. Replace the output option if problem remains.
28x.48 x = bin number	Deflector gate transition to output option not detected Applies to: StapleSmart finisher	The sensor (deflector gate HP) does not detect transition of the deflector gate to the output option.	1. Check all the connections on the output option controller card. 2. Check the sensor (deflector HP) for damage and replace if needed. Go to **"MFP stapler assembly sensor (deflector HP) removal" on page 4-220**. 3. Replace the output option if problem remains.
28x.49 x = bin number	Deflector gate transition to standard bin not detected Applies to: StapleSmart finisher	The sensor (deflector gate HP) does not detect transition of the deflector gate to the standard bin.	1. Check all the connections on the output option controller card. 2. Check the sensor (deflector HP) for damage and replace if needed. Go to **"MFP stapler assembly sensor (deflector HP) removal" on page 4-220**. 3. Replace the output option if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.50 x = bin number	Left tamper home position jam Applies to: StapleSmart finisher	The left tamper home position is not detected by the sensor (left tamper HP)	1. Check all the connections on the output option controller card. 2. Check the tamper drive belt for damage and replace if needed. 3. Replace the left tamper motor assembly. Go to **"MFP stapler assembly tamper drive motor assembly removal" on page 4-210**. 4. Replace the sensor (tamper HP). Go to **"MFP stapler assembly sensor (tamper HP left and right) removal" on page 4-217**. 4. Replace the output option if problem remains.
28x.51 x = bin number	Right tamper home position jam Applies to: StapleSmart finisher	The right tamper home position is not detected by the sensor (right tamper HP)	1. Check all the connections on the output option controller card. 2. Check the tamper drive belt for damage and replace if needed. 3. Replace the right tamper motor assembly. Go to **"MFP stapler assembly tamper drive motor assembly removal" on page 4-210**. 4. Replace the sensor (tamper HP). Go to **"MFP stapler assembly tamper drive motor assembly removal" on page 4-210**. 4. Replace the output option if problem remains.
28x.52 x = bin number	Paddle control motor timer error Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.53 x = bin number	Eject motor encoder not detected Applies to: StapleSmart finisher	The eject motor encoder is not detected upon startup	1. Check all the connections on the output option controller card. 2. Replace the output option if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.54 x = bin number	Eject motor encoder not detected Applies to: StapleSmart finisher	The eject motor encoder detection is lost during normal operation.	1. Check all the connections on the output option controller card. 2. Replace the output option if problem remains.
28x.55 x = bin number	Eject motor overspeed failure Applies to: StapleSmart finisher	The eject motor rotate at the specified speed	1. Check all the connections on the output option controller card. 2. Replace the output option if problem remains.
28x.56 x = bin number	Eject motor underspeed failure Applies to: StapleSmart finisher	The eject motor rotate at the specified speed	1. Check all the connections on the output option controller card. 2. Replace the output option if problem remains.
28x.57 x = bin number	Sensor (stapler pass through) static jam Applies to: StapleSmart finisher	Media remains on the sensor (stapler pass through) during the warm up sequence.	Go to sensor (stapler pass through) static jam service check. See **"Sensor (stapler pass through) static jam service check" on page 2-145**.
28x.58 x = bin number	Sensor (stapler pass through) late jam StapleSmart finisher	The media is late reaching the sensor (stapler pass through) within the specified time.	See **"Sensor (output pass through) late jam service check" on page 2-145**.
28x.59 x = bin number	Staple ready home position jam Applies to: StapleSmart finisher	The sensor (self priming) within the stapler unit assembly does not detect a ready staple in the specified time after the staple job was sent.	1. Check all the connections on the controller card and the stapler assembly. 2. Remove the staple cartridge and remove all jammed staples. If the cartridge is jammed and can not be removed, go to step 3. 3. Remove the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**. 4. Manually rotate the drive gears and reset the stapler. Remove all jammed staples then reinstall the stapler assembly. 5. If problem remains, replace the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**.
28x.60 x = bin number	The status of stapler motor is not defined Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.61 x = bin number	DMID command is not received for 500ms after main motor runs Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.62 x = bin number	When finishing job isn't completed yet, the first DMID command of the next job is received. Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.63 x = bin number	Bin clamp motor control timer error. Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.64 x = bin number	Bin clamp motor control timer error during tray holder initial. Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.65 x = bin number	Bin clamp home position jam Applies to: StapleSmart finisher	The bin clamp home position is not detected by the sensor (bin clamp HP)	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.66 x = bin number	Bin clamp home position jam Applies to: StapleSmart finisher	The sensor (bin clamp HP) does not detect that the bin clamp has moved from home position.	1. Turn the machine off/on. 2. Replace the output option if problem remains.
28x.67 x = bin number	Invalid bin clamp manager state. Applies to: StapleSmart finisher	A software failure has occurred with the output option.	1. Turn the machine off/on. 2. Replace the output option if problem remains.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.68 x = bin number	Staple ready home position jam Applies to: StapleSmart finisher	The sensor (self priming) within the stapler assembly does not detect a ready staple prior to a staple job. Staples empty	1. Check all the connections on the controller card and the stapler assembly. 2. Remove the staple cartridge and remove all jammed staples. If the cartridge is jammed and can not be removed, go to step 3. 3. Remove the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**. 4. Manually rotate the drive gears and reset the stapler. Remove all jammed staples then reinstall the stapler assembly. 5. If problem remains, replace the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**.
28x.69 x = bin number	Staple ready home position jam Applies to: StapleSmart finisher	The sensor (self priming) within the stapler assembly does not detect a ready staple in the specified time after the staple job was sent. Staples not empty	1. Check all the connections on the controller card and the stapler assembly. 2. Remove the staple cartridge and remove all jammed staples. If the cartridge is jammed and can not be removed, go to step 3. 3. Remove the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**. 4. Manually rotate the drive gears and reset the stapler. Remove all jammed staples then reinstall the stapler assembly. 5. If problem remains, replace the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**.

Error code or message	Error contents	Description/Action	Possible repair actions
28x.70 x = bin number	Stapler mechanism not in home position failure Applies to: StapleSmart finisher	The sensor (home signal) within the stapler assembly detected that the stapler mechanism was not in the home position before stapling.	1. Check all the connections on the controller card and the stapler assembly. 2. Remove the staple cartridge and remove all jammed staples. If the cartridge is jammed and can not be removed, go to step 3. 3. Remove the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**. 4. Manually rotate the drive gears and reset the stapler and remove all jammed staples then reinstall the stapler assembly. 5. If problem remains, replace the stapler assembly. Go to **"MFP stapler assembly stapler unit assembly removal" on page 4-212**.
28x.71 x = bin number	Deflector gate transition to standard bin not detected Applies to: StapleSmart finisher	The sensor (deflector gate HP) does not detect transition of the deflector gate to the standard bin.	1. Check all the connections on the output option controller card. 2. Check the sensor (deflector HP) for damage and replace if needed. Go to **"MFP stapler assembly sensor (deflector HP) removal" on page 4-220**. 3. Replace the output option if problem remains.
281.72 x = bin number	Sensor (media in stapler) static jam Applies to: StapleSmart finisher	Media remains on the sensor (media in stapler) during the warm up sequence.	1. Inspect the sensor (media in stapler) for proper installation and reinstall if needed. 2. Replace the sensor (media in stapler) Go to **"MFP stapler assembly sensor (media in stapler) removal" on page 4-219**.
290.00	Sensor (ADF sheet through) static jam	Media remains on the sensor (ADF sheet through) during the warm up sequence.	See **"Sensor (ADF sheet through) static jam service check" on page 2-112**.
290.01	Sensor (ADF sheet through) late jam	The media does not reach the sensor (ADF sheet through) within the specified time.	See **"Sensor (ADF sheet through) late jam service check 290.01" on page 2-113**.
290.02	Sensor (ADF 1st scan) late jam	The media does not reach the sensor (ADF 1st scan) within the specified time.	See **"Sensor (ADF 1st scan) late jam service check" on page 2-114**.

Error code or message	Error contents	Description/Action	Possible repair actions
290.03	Sensor (ADF sheet through) lingering jam	Media reached the sensor (ADF sheet through) but did not clear it within the specified time.	See **"Sensor (ADF sheet through) lingering jam service check" on page 2-115**.
290.10	Sensor (ADF 1st scan) static jam	Media remains on the sensor (ADF 1st scan) during the warm up sequence.	See **"Sensor (1st scan) static jam service check" on page 2-117**.
291.00	Sensor (ADF 2nd scan) static jam	Media remains on the sensor (ADF 2nd scan) during the warm up sequence.	See **"Sensor (2nd scan) static jam service check" on page 2-118**.
291.01	Sensor (ADF 2nd scan) late jam	The media does not reach the sensor (ADF 2nd scan) within the specified time.	See Go to **"Sensor (ADF 2nd scan) late jam service check" on page 2-149.**
291.02	Sensor (ADF media exit) late jam	The media does not reach the sensor (ADF media exit) within the specified time.	See **"Sensor (ADF media exit) late jam service check" on page 2-123**.
292.00	ADF top door open jam	The ADF top door assembly was opened while the ADF was operating.	See **"ADF top door open jam service check" on page 2-121**.
293.00	Media missing jam	The media is removed from the ADF once the feed process is initiated.	See **"Media missing jam service check" on page 2-121**.
294.00	Sensor (ADF media exit) static jam	Media remains on the sensor (ADF media exit) during the warm up sequence.	See **"Sensor (ADF media exit) static jam service check" on page 2-122**.
294.01	Sensor (ADF media exit) lingering jam	Media reached the sensor (ADF media exit) within the specified time but did not clear it within the specified time.	See **"Sensor (ADF media exit) lingering jam service check" on page 2-125**.
294.03	Sensor (ADF media exit) lingering jam	Media reached the sensor (ADF media exit) within the specified time but did not clear it within the specified time.	See **"Sensor (ADF media exit) lingering jam service check" on page 2-125**.
840.01	Scanner manually disabled	The scanner has been manually disabled	Enter the configuration mode to re-enable the scanner.
840.02	Scanner auto disabled	The scanner has automatically been disabled by the controller	Enter the configuration mode to re-enable the scanner.
841.xx	Scanner image pipeline failure	The scanner image ASIC has failed	1. Check all connections on the ADF controller card assembly. 2. Replace the scanner controller card assembly if problem remains. Go to **"Scanner controller card assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-132** or **"Scanner controller card assembly removal (model X658)" on page 4-129**.

Error code or message	Error contents	Description/Action	Possible repair actions
842.xx	ADF communication failure	The ADF controller card has lost communication with the system.	1. Check all connections on the ADF controller card assembly. 2. Replace the ADF controller card assembly if problem remains. Go to **"ADF controller card removal" on page 4-67**.
843.xx	Scanner carriage mechanical failure	The scanner carriage home position detection has failed.	1. Turn the machine off/on. 2. See **"Sensor (scanner HP) service check" on page 2-149**.
844.xx	Scanner exposure lamp failure	The flatbed scanner exposure lamp has failed.	Replace the exposure lamp. Go to **"Scanner / ADF duplex CCD exposure lamp removal" on page 4-147**.
845.xx	Scanner CCD failure		
849.00	Missing a hard drive	Machine is missing a hard drive.	Install the hard drive.
849.01	Hard drive installed erroneously	Machine has an installed hard drive that should not be present.	Uninstall the hard drive.
900.xx	System software error	Code detected unusual event or timing.	1. POR the machine and print a simple test page to determine if the problem is system software related, or if the customer is sending a corrupted print job. 2. Check all connections on the system card assembly. 3. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
901xx	System software error	Code detected unusual event or timing.	1. POR the machine and print a simple test page to determine if the problem is firmware related, or if the customer is sending a corrupted print job. 2. Check all connections on the system card assembly. 3. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
902.xx	System software error	Code detected unusual event or timing.	1. POR the machine and print a simple test page to determine if the problem is system software related, or if the customer is sending a corrupted print job. 2. Check all connections on the system card assembly. 3. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
903.xx	Paperport link driver error	Code detected unusual event or timing.	1. POR the machine and print a simple test page to determine if the problem is system software related, or if the customer is sending a corrupted print job. 2. Check all connections on the system card assembly. 3. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
904.xx	Interface violation by RIP	Code detected unusual event or timing.	1. POR the machine and print a simple test page to determine if the problem is system software related, or if the customer is sending a corrupted print job. 2. Check all connections on the system card assembly. 3. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
905.xx	Interface violation by paperport device	Code detected unusual event or timing.	1. POR the machine and print a simple test page to determine if the problem is system software related, or if the customer is sending a corrupted print job. 2. Check all connections on the system card assembly. 3. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
906.xx	RIP interface driver error	Code detected unusual event or timing.	1. POR the machine and print a simple test page to determine if the problem is system software related, or if the customer is sending a corrupted print job. 2. Check all connections on the system card assembly. 3. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
910.00	Pick arm motor stalled failure	The pick arm motor has stalled or become obstructed.	1. Check all the connections on the pick arm assembly. 2. Check all the connections on the system card assembly. 3. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**.
911.00	Pick arm motor overrun failure	The pick arm motor encoder continues to detect pulse after the motor stops.	1. Check all the connections on the pick arm assembly. 2. Check all the connections on the system card assembly. 3. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**.
912.00	Pick arm motor underspeed failure	The pick arm motor does not rotate at the specified speed.	1. Check all the connections on the pick arm assembly. 2. Check all the connections on the system card assembly. 3. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**.
913.00	Pick arm motor overspeed failure	The pick arm motor does not rotate at the specified speed.	1. Check all the connections on the pick arm assembly. 2. Check all the connections on the system card assembly. 3. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**.

Error code or message	Error contents	Description/Action	Possible repair actions
914.00	Pick arm motor no encoder not detected failure	The pick arm motor encoder detection is lost during normal operation	1. Check all the connections on the pick arm assembly. 2. Check all the connections on the system card assembly. 3. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**.
914.01	Pick arm motor overspeed failure.	The pick arm motor does not rotate at the specified speed.	1. Check all the connections on the pick arm assembly. 2. Check all the connections on the system card assembly. 3. Replace the pick arm assembly if problem remains. Go to **"Pick arm assembly removal" on page 4-29**.
915.00	Redrive motor encoder not detected failure	The redrive motor encoder detection is lost during normal operation	1. Check all the connections on the duplex drive motor assembly. 2. Check all the connections on the system card assembly. 3. Replace the duplex drive motor assembly if problem remains. Go to **"Duplex drive motor assembly removal" on page 4-9**.
915.01	Redrive motor over speed failure	The redrive motor does not rotate at the specified speed.	1. Check all the connections on the duplex drive motor assembly. 2. Check all the connections on the system card assembly. 3. Replace the duplex drive motor assembly if problem remains. Go to **"Duplex drive motor assembly removal" on page 4-9**.
916.00	Internal duplex drive motor encoder not detected failure	The duplex drive motor encoder detection is lost during normal operation	1. Check all the connections on the duplex drive motor assembly. 2. Check all the connections on the system card assembly. 3. Replace the duplex drive motor assembly if problem remains. Go to **"Duplex drive motor assembly removal" on page 4-9**.

Error code or message	Error contents	Description/Action	Possible repair actions
916.01	Internal duplex drive motor over speed failure	The duplex drive motor does not rotate at the specified speed.	1. Check all the connections on the duplex drive motor assembly. 2. Check all the connections on the system card assembly. 3. Replace the duplex drive motor assembly if problem remains. Go to **"Duplex drive motor assembly removal" on page 4-9**.
920.00	Fuser under temperature Fuser type = 1	Fuser does not maintain proper operating temperature within steady state control.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.01	Fuser warm-up failure Fuser type = 1	The fuser hot roll took too long to heat up after transitioning to new enhanced mode within standby control only.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.02	Fuser warm-up failure Fuser type = 1	The fuser hot roll fell to far below desired temperature while in standby control.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.03	Fuser warm-up failure Fuser type = 1	The fuser hot roll is too cool while checking for slope change in standby.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.

Error code or message	Error contents	Description/Action	Possible repair actions
920.04	Fuser warm-up failure Fuser type = 1	The fuser hot roll is too cool when heating to desired temperature after slope change within standby control only.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.06	Fuser warm-up failure Fuser type = 1	The fuser hot roll temperature does not increase while the lamp is turned on.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Ensure the proper voltage setting is being used on the switchable LVPS assembly. 5. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**. 6. Replace the LVPS card assembly if problem remains. Go to **"LVPS card assembly removal" on page 4-47**.
920.07	Fuser warm-up failure Fuser type = 1	The fuser hot roll temperature is not maintained properly while the media in the fuser nip.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **"LVPS card assembly removal" on page 4-47**.

Error code or message	Error contents	Description/Action	Possible repair actions
920.25	Fuser under temperature Fuser type = 2	Fuser does not maintain proper operating temperature within steady state control.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.26	Fuser warm-up failure Fuser type = 2	The fuser hot roll took too long to heat up after transitioning to new enhanced mode within standby control only.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.27	Fuser warm-up failure Fuser type = 2	The fuser hot roll fell to far below desired temperature while in standby control.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.28	Fuser warm-up failure Fuser type = 2	The fuser hot roll is too cool while checking for slope change in standby.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.29	Fuser warm-up failure Fuser type = 2	The fuser hot roll is too cool when heating to desired temperature after slope change within standby control only.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.

Error code or message	Error contents	Description/Action	Possible repair actions
920.31	Fuser warm-up failure Fuser type = 2	The fuser hot roll temperature does not increase while the lamp is turned on.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **"LVPS card assembly removal" on page 4-47**.
920.32	Fuser warm-up failure Fuser type = 2	The fuser hot roll temperature is not maintained properly while the media in the fuser nip.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **"LVPS card assembly removal" on page 4-47**.
920.50	Fuser under temperature Fuser type = 1 Fuser page count has exceeded life.	Fuser does not maintain proper operating temperature within steady state control.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.51	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll took too long to heat up after transitioning to new enhanced mode within standby control only.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.52	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll fell to far below desired temperature while in standby control.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.

Error code or message	Error contents	Description/Action	Possible repair actions
920.53	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll is too cool while checking for slope change in standby.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.54	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll is too cool when heating to desired temperature after slope change within standby control only.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.56	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll temperature does not increase while the lamp is turned on.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.57	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll temperature is not maintained properly while the media in the fuser nip.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.75	Fuser under temperature Fuser type = 2 Fuser page count has exceeded life.	Fuser does not maintain proper operating temperature within steady state control.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.76	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll took too long to heat up after transitioning to new enhanced mode within standby control only.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.77	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll fell to far below desired temperature while in standby control.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.78	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll is too cool while checking for slope change in standby.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.79	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll is too cool when heating to desired temperature after slope change within standby control only.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
920.81	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll temperature does not increase while the lamp is turned on.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.

Error code or message	Error contents	Description/Action	Possible repair actions
920.82	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll temperature is not maintained properly while the media in the fuser nip.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
922.00	Fuser warm-up failure Fuser type = 1	The fuser hot roll failed to reach target departure.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
922.02	Fuser warm-up failure Fuser type = 1	The fuser hot roll does not reach the "beginning lamp detection" parameter in the specified time.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **"LVPS card assembly removal" on page 4-47**.
922.03	Fuser warm-up failure Fuser type = 1	The fuser hot roll does reach the "final lamp detection" parameter but not in the specified time.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **"LVPS card assembly removal" on page 4-47**.

Error code or message	Error contents	Description/Action	Possible repair actions
922.04	Fuser warm-up failure Fuser type = 1	The fuser hot roll has timed out and not reached “final lamp detection” during the specified time.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **“LVPS card assembly removal” on page 4-47**.
922.05	After hot roll lamp detection, did not roll over to steady state control in time. Fuser type = 1	The control code has gotten lost (this should really be a software error.	Turn the machine off/on.
922.06	Fuser warm-up failure Fuser type = 1	The fuser hot roll did not reach operating temperature within new enhanced control.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **“LVPS card assembly removal” on page 4-47**.

Error code or message	Error contents	Description/Action	Possible repair actions
922.07	Fuser warm-up failure Fuser type = 1	The fuser hot roll does not reach operating temperature after increasing interpage gap.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **"LVPS card assembly removal" on page 4-47**.
922.25	Fuser warm-up failure Fuser type = 2	The fuser hot roll failed to reach target departure.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
922.27	Fuser warm-up failure Fuser type = 2	The fuser hot roll does not reach the "beginning lamp detection" parameter in the specified time.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **"LVPS card assembly removal" on page 4-47**.

Error code or message	Error contents	Description/Action	Possible repair actions
922.28	Fuser warm-up failure Fuser type = 2	The fuser hot roll does reach the “final lamp detection” parameter but not in the specified time.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **“LVPS card assembly removal” on page 4-47**.
922.29	Fuser warm-up failure Fuser type = 2	The fuser hot roll has timed out and not reached “final lamp detection” during the specified time.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **“LVPS card assembly removal” on page 4-47**.
922.30	After hot roll lamp detection, did not roll over to steady state control in time. Fuser type = 2	The control code has gotten lost (this should really be a software error.	Turn the machine off/on.

Error code or message	Error contents	Description/Action	Possible repair actions
922.31	Fuser warm-up failure Fuser type = 2	The fuser hot roll did not reach operating temperature within new enhanced control.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **"LVPS card assembly removal" on page 4-47**.
922.32	Fuser warm-up failure Fuser type = 2	The fuser hot roll does not reach operating temperature after increasing interpage gap.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Check all connections on the fuser and LVPS card assembly. 4. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**. 5. Replace the LVPS card assembly if problem remains. Go to **"LVPS card assembly removal" on page 4-47**.
922.50	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll failed to reach target temperature.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
922.52	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll does not reach the "beginning lamp detection" parameter in the specified time.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
922.53	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll does reach the "final lamp detection" parameter but not in the specified time.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.

Error code or message	Error contents	Description/Action	Possible repair actions
922.54	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll has timed out and not reached “final lamp detection” during the specified time.	Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**.
922.56	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll did not reach operating temperature within new enhanced control.	Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**.
922.57	Fuser warm-up failure Fuser type = 1 Fuser page count has exceeded life.	The fuser hot roll does not reach operating temperature after increasing interpage gap.	Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**.
922.75	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll failed to reach target temperature.	Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**.
922.77	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll does not reach the “beginning lamp detection” parameter in the specified time.	Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**.
922.78	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll does reach the “final lamp detection” parameter but not in the specified time.	Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**.
922.79	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll has timed out and not reached “final lamp detection” during the specified time.	Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**.
922.81	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll did not reach operating temperature within new enhanced control.	Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**.
922.82	Fuser warm-up failure Fuser type = 2 Fuser page count has exceeded life.	The fuser hot roll does not reach operating temperature after increasing interpage gap.	Replace the fuser unit assembly if problem remains. Go to **“Fuser unit assembly removal” on page 4-15**.

Error code or message	Error contents	Description/Action	Possible repair actions
923.00	Fuser over temperature failure. Fuser type = 1	The fuser hot roll has exceeded the proper operating temperature.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
923.01	Fuser over temperature failure. Fuser type = 1	The fuser hot roll has exceeded the proper operating temperature.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
923.25	Fuser over temperature failure. Fuser type = 2	The fuser hot roll has exceeded the proper operating temperature.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
923.26	Fuser over temperature failure. Fuser type = 2	The fuser hot roll has exceeded the proper operating temperature.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
923.50	Fuser over temperature failure. Fuser type = 1	The fuser hot roll has exceeded the proper operating temperature.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
923.51	Fuser over temperature failure. Fuser type = 1	The fuser hot roll has exceeded the proper operating temperature.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.

Error code or message	Error contents	Description/Action	Possible repair actions
923.75	Fuser over temperature failure. Fuser type = 2	The fuser hot roll has exceeded the proper operating temperature.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
923.76	Fuser over temperature failure. Fuser type = 2	The fuser hot roll has exceeded the proper operating temperature.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
924.00	Open fuser thermistor check Fuser type = 1	The fuser thermistor might be faulty.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
924.01	Open fuser thermistor check failure. Fuser type = 1	The fuser thermistor has failed.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
924.25	Open fuser thermistor check Fuser type = 2	The fuser thermistor might be faulty.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
924.26	Open fuser thermistor check failure. Fuser type = 2	The fuser thermistor has failed.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
924.50	Open fuser thermistor check Fuser type = 1 Fuser page count has exceeded life.	The fuser thermistor might be faulty.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
924.51	Open fuser thermistor check failure. Fuser type = 1 Fuser page count has exceeded life.	The fuser thermistor has failed.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
924.75	Open fuser thermistor check Fuser type = 2 Fuser page count has exceeded life.	The fuser thermistor might be faulty.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
924.76	Open fuser thermistor check failure. Fuser type = 2 Fuser page count has exceeded life.	The fuser thermistor has failed.	Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.

Error code or message	Error contents	Description/Action	Possible repair actions
925.00	Incorrect fuser or fuser lamp detected. Fuser type = 1	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
925.01	Incorrect fuser or fuser lamp detected. Fuser type = 1	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
925.02	Incorrect fuser or fuser lamp detected. Fuser type = 1	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
925.25	Incorrect fuser or fuser lamp detected. Fuser type = 2	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
925.26	Incorrect fuser or fuser lamp detected. Fuser type = 2	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.

Error code or message	Error contents	Description/Action	Possible repair actions
925.27	Incorrect fuser or fuser lamp detected. Fuser type = 2	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
925.50	Incorrect fuser or fuser lamp detected. Fuser type = 1 Fuser page count has exceeded life.	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
925.51	Incorrect fuser or fuser lamp detected. Fuser type = 1 Fuser page count has exceeded life.	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
925.52	Incorrect fuser or fuser lamp detected. Fuser type = 1 Fuser page count has exceeded life.	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
925.75	Incorrect fuser or fuser lamp detected. Fuser type = 2 Fuser page count has exceeded life.	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.

Error code or message	Error contents	Description/Action	Possible repair actions
925.76	Incorrect fuser or fuser lamp detected. Fuser type = 2 Fuser page count has exceeded life.	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
925.77	Incorrect fuser or fuser lamp detected. Fuser type = 2 Fuser page count has exceeded life.	The machine detected a 115 V lamp in a 220 V machine. The fuser lamp has an excessive wattage rating.	1. Turn the machine off/on and ensure the fuser unit assembly is properly installed. 2. Ensure the proper voltage fuser is installed in the machine. 3. Replace the fuser unit assembly if problem remains. Go to **"Fuser unit assembly removal" on page 4-15**.
927.01	Main cooling fan failure.	The cooling fan is obstructed or has failed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the main cooling fan. Go to **"Main cooling fan removal" on page 4-14**.
927.02	Print cartridge cooling fan failure.	The cooling fan is obstructed or has failed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the print cartridge cooling fan. Go to **"Print cartridge cooling fan removal" on page 4-31**.
927.03	Main cooling fan control failure.	The main cooling fan does not reach the specified speed.	4. Check for cooling fan obstructions. 5. Check the connections on the main cooling fan. 6. Replace the main cooling fan. Go to **"Main cooling fan removal" on page 4-14**.
927.04	Main cooling fan under speed failure	The main cooling fan does not reach the specified speed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the main cooling fan. Go to **"Main cooling fan removal" on page 4-14**.

Error code or message	Error contents	Description/Action	Possible repair actions
927.05	Main cooling fan over speed failure.	The main cooling fan does not reach the specified speed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the main cooling fan. Go to **"Main cooling fan removal" on page 4-14**.
927.06	Main cooling fan over speed failure.	The main cooling fan does not reach the specified speed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the main cooling fan. Go to **"Main cooling fan removal" on page 4-14**.
927.07	Main cooling fan over speed failure.	The main cooling fan does not reach the specified speed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the main cooling fan. Go to **"Main cooling fan removal" on page 4-14**.
927.11	Print cartridge cooling fan failure	The print cartridge cooling fan is obstructed or has failed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the print cartridge cooling fan. Go to **"Print cartridge cooling fan removal" on page 4-31**.
927.13	Print cartridge cooling fan control failure.	The Print cartridge cooling fan does not reach the specified speed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the print cartridge cooling fan. Go to **"Print cartridge cooling fan removal" on page 4-31**.
927.14	Print cartridge cooling fan underspeed failure	The Print cartridge cooling fan does not reach the specified speed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the print cartridge cooling fan. Go to **"Print cartridge cooling fan removal" on page 4-31**.
927.15	Print cartridge cooling fan over speed failure.	The Print cartridge cooling fan does not reach the specified speed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the print cartridge cooling fan. Go to **"Print cartridge cooling fan removal" on page 4-31**.

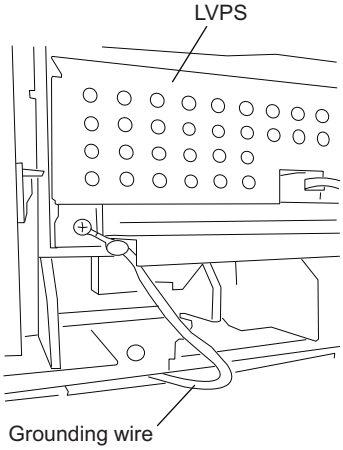
Error code or message	Error contents	Description/Action	Possible repair actions
927.16	Print cartridge cooling fan over speed failure.	The Print cartridge cooling fan does not reach the specified speed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the print cartridge cooling fan. Go to **"Print cartridge cooling fan removal" on page 4-31**.
927.17	Print cartridge cooling fan over speed failure.	The Print cartridge cooling fan does not reach the specified speed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the print cartridge cooling fan. Go to **"Print cartridge cooling fan removal" on page 4-31**.
927.21	LVPS cooling fan failure.	LVPS cooling fan is obstructed or has failed.	1. Check for cooling fan obstructions. 2. Check the connections on the main cooling fan. 3. Replace the LVPS cooling fan. Go to **"LVPS cooling fan" on page 4-154**.
929.01	Sensor (toner empty) sensor failure.	The sensor (toner empty) does not provide toner level feedback or the print cartridge is damaged.	1. Check the toner pulse wheel on the print cartridge for damage and replace the print cartridge if needed. 2. Check the sensor (toner empty) for proper operation. See **"Sensor (ADF sheet through) static jam service check" on page 2-112**.
929.02	Sensor (toner empty) sensor failure.	The sensor (toner empty) does not provide toner level feedback or the print cartridge is damaged.	1. Check the toner pulse wheel on the print cartridge for damage and replace the print cartridge if needed. 2. Check the sensor (toner empty) for proper operation. See **"Sensor (ADF sheet through) static jam service check" on page 2-112**.
929.03	Sensor (toner empty) sensor failure.	The sensor (toner empty) does not provide toner level feedback or the print cartridge is damaged.	1. Check the toner pulse wheel on the print cartridge for damage and replace the print cartridge if needed. 2. Check the sensor (toner empty) for proper operation. See **"Sensor (ADF sheet through) static jam service check" on page 2-112**.
930.00	Incorrect printhead or intermittent Hsync	A non supported printhead is installed. Hsync signal is intermittent or noisy. Printhead ID resistor circuit is not to spec.	Replace the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.

Error code or message	Error contents	Description/Action	Possible repair actions
931.00	No first laser H sync	The hsync signal is missing or not at the correct voltage.	Replace the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.
932.00	Printhead lost laser H syncs.	The hsync signal is missing or not at the correct voltage.	Replace the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.
933.00	Polygon mirror motor locked. No first laser H sync received.	The hsync signal is missing or not at the correct voltage.	Replace the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.
934.00	Mirror motor lost lock.	The signals driving the polygon motor may have been corrupted, or the cable may be loose, or the motor may be bad.	1. Check all connections on the printhead assembly. 2. Check all connections on the system card assembly. 3. Replace the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.
935.00	Polygon mirror motor control failure.	The signals driving the polygon mirror motor may have been corrupted, or the cable may be loose, or the motor may be bad.	1. Check all connections on the printhead assembly. 2. Check all connections on the system card assembly. 3. Replace the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.
936.10	Main drive motor assembly failure No halls detected at motor start. Motor = type 0	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
936.11	Main drive motor assembly failure No halls detected at motor start. Motor = type 1	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
936.20	Main drive motor assembly failure Failed to stop within timeout. Motor = type 0	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
936.21	Main drive motor assembly failure Failed to stop within timeout. Motor = type 1	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
936.30	Main drive motor assembly failure No lock detected at motor start for motor ID. Motor = type 0	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
936.31	Main drive motor assembly failure No lock detected at motor start for motor ID. Motor = type 1	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
936.60	Main drive motor assembly failure No lock detected at normal motor start. Motor = type 0	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
936.61	Main drive motor assembly failure No lock detected at normal motor start. Motor = type 1	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
936.90	Main drive motor assembly failure Stall detected during speed control. Motor = type 0	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
936.91	Main drive motor assembly failure Stall detected during speed control. Motor = type 1	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
937.40	Main drive motor assembly failure Over speed detected during speed control. Motor = type 0	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
937.41	Main drive motor assembly failure Over speed detected during speed control. Motor = type 1	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
937.50	Main drive motor assembly failure Over speed detected during position control. Motor = type 0	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
937.51	Main drive motor assembly failure Over speed detected during position control. Motor = type 1	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
937.70	Main drive motor assembly failure Loss of lock detected by higher-level code. Motor = type 0	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
937.71	Main drive motor assembly failure Loss of lock detected by higher-level code. Motor = type 1	The main drive motor assembly may be faulty or has failed. The internal duplex assembly is not properly grounded to the LVPS. This only applies to machines with an installed internal duplex assembly.	**Warning:** Ensure that the metal frame of the internal duplex assembly is properly grounded to the metal frame of the LVPS with a jumper wire as shown in the graphic below.  If the jumper wire is NOT present, install the **40X7028** internal duplex grounding kit. This should only be done for machines with an installed internal duplex assembly. 1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
937.80	Main drive motor assembly failure Driver over temp detection. Motor = type 0	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
937.81	Main drive motor assembly failure Driver over temp detection. Motor = type 1	The main drive motor assembly may be faulty or has failed.	1. Check all connections on the system card assembly. 2. Check all connections on the main drive motor assembly. 3. Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**. 4. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
945.xxx	Image processing unit failure	The image processing ASIC or DRAM has failed.	1. POR the machine 2. If the problem remains, replace the scanner controller card. Go to **"Scanner controller card assembly removal (model X658)" on page 4-129** or **"Scanner controller card assembly removal (models X651, X652/5535dn, X654, and X656)"on page 4-132**.

Error code or message	Error contents	Description/Action	Possible repair actions
950.xx	NVRAM mismatch failure	Mismatch between system card EEPROM and operator panel mirror. ".xx" codes: 00-29: mismatch between system and mirror 30-60: mismatch between secure and system	**Warning:** When replacing any of the following components: • Scanner interface card assembly. • System card assembly Only replace one component at a time. Replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable. Never install and remove components listed above as a method of troubleshooting components. Once a component has been installed in a machine, it can not be used in another machine. It must be returned to the manufacturer. Go to NVRAM mismatch failure service check. See **"NVRAM mismatch failure (950.00 through 950.29) service check" on page 2-150**.
952.xx	NVRAM failure	A recoverable MVRAM Cyclic Redundancy Check (CRC) error occurred.	Power the machine off/on to reset the error condition.
953.xx	NVRAM failure	The NVRAM chip has failed on the scanner interface card assembly.	Replace the scanner interface card assembly. Go to **"Scanner interface card assembly removal" on page 4-148**.
954.xx	NVRAM failure	NVRAM chip failure with system card assembly.	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.
955.xx	NAND FLASH Failure	The Code ROM or NAND flash failed the Cyclic Redundancy Check (CRC) check or the NAND experienced an uncorrectible multi-bit failure.	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.
956.xx	System card processor failure	The processor has failed on the system card assembly.	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.

Error code or message	Error contents	Description/Action	Possible repair actions
956.01	System card processor over temperature	The system card processor is over temperature or is damaged.	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.
957.xx	System card ASIC failure	The ASIC has failed on the system card assembly.	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.
958.xx	NAND failure	Printer has performed more than 100 "shift and reflash" operations as a result of ECC bit corrections	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.
959.xx	Print cartridge authentication failure	The system card can not properly authenticate the print cartridge or the authentication process has failed.	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.
960.xx	Memory failure	RAM Memory Error: RAM soldered on the card is bad	Replace the appropriate memory module.
961.xx	Memory failure	RAM Memory Error: Slot 1 RAM is bad	Replace the appropriate memory module.
962.xx	Memory failure	RAM Memory Error: Slot 2 RAM is bad	Replace the appropriate memory module.
963.xx	Memory failure	RAM Memory Error: Slot 3 RAM is bad	Replace the appropriate memory module.
964.xx	Emulation failure	The download Emulation Cyclic Redundancy Check (CRC) detected a failure.	1. Disable the Download Emulation. Program the download emulation into the firmware card again. 2. Replace the system card assembly if problem remains. Go to **"System card assembly removal" on page 4-50**.
975.xx	Network Error	The system detected an unrecognizable network port	
976.xx	Network Error	The system detected an unrecoverable software error in network port	
978.xx	Network Error	The system detected a bad checksum while programming network port	
979.xx	Network Error	The flash parts failed while programming a network port	

Error code or message	Error contents	Description/Action	Possible repair actions
982.04	Output option communication failure.	An output option was not fully seated onto the printer or has been removed while the main power is turned on.	1. Turn the main power off. 2. Remove and reinstall the output option. 3. Turn the main power back on. 4. Check all output option interface connections if problem remains.
982.07	Too many options installed	Exceeded the maximum number of input or output options.	Remove the appropriate input or output options.
990.00	Output option equipment check.	Output option rear door not fully closed.	Close the rear door on all output options.
990.51	HCIT tray lift motor PWM underflow error	The HCIT tray lift motor does not operate at the specified speed reported by tray x	1. Check for obstruction in the HCIT tray lift area. 2. Check the connections on the HCIT tray lift motor assembly for proper connection. 3. Replace the HCIT tray lift motor drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.
990.53	HCIT tray lift motor ramp error	The HCIT tray lift motor does not reach the specified speed at the specified time.	1. Check for obstruction in the HCIT tray lift area. 2. Check the connections on the HCIT tray lift motor assembly for proper connection. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.
990.54	HCIT tray lift motor lost encoder failure	The HCIT tray lift motor is not reporting pulses back to the engine.	1. Check for obstruction in the HCIT tray lift area. 2. Check the connections on the HCIT tray lift motor assembly for proper connection. 3. Replace the HCIT tray lift drive motor assembly if problem remains. Go to **"High capacity input tray (HCIT) tray lift drive motor assembly removal" on page 4-167**.

Service checks

Sensor (input) service check

Step	Check	Yes	No
1	Check the sensor (input) for damage. Is the above component free from damage?	Go to step 2.	Replace the sensor (input). Go to **"Sensor (input) removal" on page 4-42**.
2	1. Enter the diagnostic mode 2. Select Base sensor test 4. Observe the line item "input" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly	Go to step 2.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the Sensor (input). Go to **"Sensor (input) removal" on page 4-42**.	Replace the connection.

Sensor (fuser output) service check

Step	Check	Yes	No
1	Check the sensor (fuser output) for damage. Is the above component free from damage?	Go to step 2.	Replace fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.
2	1. Enter the diagnostic mode 2. Select Base sensor test 4. Observe the line item "exit" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly	Go to step 2.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Replace the connection.

Sensor (narrow media) service check

Step	Check	Yes	No
1	Check the sensor (narrow media) for damage. Is the above component free from damage?	Go to step 2.	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.
2	1. Enter the diagnostic mode 2. Select Base sensor test 4. Observe the line item "narrow media" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly	Go to step 2.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Replace the connection.

Sensor (duplex input) service check

Step	Check	Yes	No
1	Check the sensor (duplex input) for damage. Is the above component free from damage?	Go to step 2.	Replace the sensor (duplex input). Go to **"Sensor (duplex input) removal" on page 4-41**.
2	1. Enter the diagnostic mode 2. Select Duplex sensor tests 3. Select Sensor test 4. Observe the line item "input" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly	Go to step 2.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the duplex input sensor assembly (internal duplex only). Go to **"Duplex input sensor assembly removal" on page 4-10.** or replace the external duplex unit assembly (external duplex only).	Replace the connection.

Sensor (duplex input) service check (external duplex only)

Step	Check	Yes	No
1	Check the sensor (duplex input) for damage. Is the above component free from damage?	Go to step 2.	Replace the external duplex unit assembly.
2	1. Enter the diagnostic mode 2. Select Duplex sensor tests 3. Select Sensor test 4. Observe the line item “input” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly	Go to step 2.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the external duplex unit assembly.	Replace the connection.

Sensor (duplex exit) service check (external duplex only)

Step	Check	Yes	No
1	Check the sensor (duplex exit) for damage. Is the above component free from damage?	Go to step 2.	Replace the external duplex unit assembly.
2	1. Enter the diagnostic mode 2. Select Duplex sensor tests 3. Select Sensor test 4. Observe the line item “exit” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly	Go to step 2.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the external duplex unit assembly.	Replace the connection.

Sensor (pass through) service check

Step	Check	Yes	No
1	1. Enter the diagnostic mode 2. Select Input tray tests 3. Select Sensor test 4. Select the appropriate tray number 5. Observe the line item “pass through” for the appropriate media tray Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly	Go to step 2.

Step	Check	Yes	No
2	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (pass through). Go to **"Sensor (pass through) with cable removal" on page 4-198**.	Replace the connection.

Sensor (envelope feeder empty) service check

Step	Check	Yes	No
1	1. Enter the diagnostic mode 2. Select Input tray tests 3. Select Sensor test 4. Select Envelope feeder 5. Observe the line item "empty" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly	Go to step 2.
2	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the envelope feeder.	Replace the connection.

Sensor (ADF top door interlock) service check

Step	Check	Yes	No
1	1. Enter the diagnostic mode 2. Select Scanner tests 3. Select Sensor tests 4. Observe the line item "Sensor (ADF top door interlock" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly	Go to step 2.
2	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (ADF top door interlock). Go to Go to **"Sensor (ADF top door interlock) removal" on page 4-80**.	Replace the connection.

Switch (ADF closed interlock) jam service check

Step	Check	Yes	No
1	1. Enter the diagnostic mode 2. Select Scanner tests 3. Select Sensor tests 4. Observe the line item “sensor (ADF closed interlock)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly	Go to step 2.
2	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (ADF closed interlock). Go to **“Switch (ADF closed interlock) removal” on page 4-84**.	Replace the connection.

Sensor (ADF sheet through) static jam service check

Use this procedure for the following jams:

- 290.00

1	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	Check the sensor (ADF sheet through) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF sheet through”**.** Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (ADF sheet through). Go to **“Sensor (ADF sheet through) removal” on page 4-82**.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **“ADF controller card removal” on page 4-67**. Go to step 5.	Problem solved.
5	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (ADF sheet through) late jam service check 290.01

Use this procedure for the following jams:

- 290.01

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF pick roll assembly for wear or gear damage. Is the ADF feed/pick roll assembly or the ADF separation roll assembly free of excess wear or gear damage?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll assembly. Go to **"ADF feed / pick roll assembly removal" on page 4-61** or **"ADF separator torque limiter assembly removal" on page 4-63**.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	Check the ADF feed drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF feed drive motor assembly. Go to **"ADF feed drive motor assembly removal" on page 4-77**.	Replace the connection.
5	Check the sensor (ADF sheet through) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line "sensor (ADF sheet through)" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.

Step	Check	Yes	No
6	Check the sensor (ADF sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (ADF sheet through). Go to **"Sensor (ADF sheet through) removal" on page 4-82**.	Replace the connection.
7	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **"ADF controller card removal" on page 4-67**. Go to step 11.	Problem solved.
8	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (ADF 1st scan) late jam service check

Use this procedure for the following jams:

- 290.02

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll assembly. Go to **"ADF feed / pick roll assembly removal" on page 4-61** or **"ADF separator torque limiter assembly removal" on page 4-63**.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.

Step	Check	Yes	No
4	Check the sensor (ADF 1st scan) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF 1st scan)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF 1st scan) for proper connection. Is the above component properly connected?	Replace the sensor (ADF 1st scan). Go to **“Sensor (ADF 1st scan) removal” on page 4-82**.	Replace the connection.
6	Check the ADF feed drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF feed drive motor assembly. Go to **“ADF feed drive motor assembly removal” on page 4-77**.	Replace the connection.
7	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **“ADF controller card removal” on page 4-67**. Go to step 8.	Problem solved.
8	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (ADF sheet through) lingering jam service check

Use this procedure for the following jams:

- 290.03

Step	Check	Yes	No
1	Check the media size setup and tray guides for the ADF. Does the media size, in use, match the size set for the ADF	Go to step 2.	Replace the media, or change the media size setup.

Step	Check	Yes	No
2	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 3.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	Check the sensor (ADF sheet through) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF sheet through)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF sheet through) for proper connection. Is the above component properly connected?	Replace the sensor (ADF sheet through). Go to **“Sensor (ADF sheet through) removal” on page 4-82**.	Replace the connection.
6	Check the ADF feed drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF feed drive motor assembly. Go to **“ADF feed drive motor assembly removal” on page 4-77**.	Replace the connection.
7	Check the ADF transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF transport drive motor assembly. Go to **“ADF transport drive motor bracket assembly w/ cable removal” on page 4-77**.	Replace the connection.
8	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **“ADF controller card removal” on page 4-67**. Go to step 11.	Problem solved.
9	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (1st scan) static jam service check

Use this procedure for the following jams:

- 290.10

1	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	Check the sensor (ADF 1st scan) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF 1st can)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF 1st scan) for proper connection. Is the above component properly connected?	Replace the sensor (ADF 1st scan). Go to **“Sensor (ADF 1st scan) removal” on page 4-82**.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **“ADF controller card removal” on page 4-67**. Go to step 5.	Problem solved.
5	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (2nd scan) static jam service check

Use this procedure for the following jams:

- 291.00

1	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	Check the sensor (2nd scan) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Touch **Observe the line "sensor (ADF 2nd scan)** Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF 2nd scan) for proper connection. Is the above component properly connected?	Replace the sensor (ADF 2nd scan). Go to **"Sensor (ADF 2nd scan) removal" on page 4-81**.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **"ADF controller card removal" on page 4-67**. Go to step 5.	Problem solved.
5	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (2nd scan) lingering jam service check

Use this procedure for the following jams:

- 291.01

Step	Check	Yes	No
1	Check the media size setup and tray guides for the ADF. Does the media size, in use, match the size set for the ADF	Go to step 2.	Replace the media, or change the media size setup.

Step	Check	Yes	No
2	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 3.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	Check the sensor (ADF 2nd scan) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF 2nd scan)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF 2nd scan) for proper connection. Is the above component properly connected?	Replace the sensor (ADF 2nd scan). Go to **“Sensor (ADF 2nd scan) removal” on page 4-81**.	Replace the connection.
6	Check the ADF transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF transport drive motor assembly. Go to **“ADF transport drive motor bracket assembly w/ cable removal” on page 4-77**.	Replace the connection.
7	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **“ADF controller card removal” on page 4-67**. Go to step 8.	Problem solved.
8	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (ADF media exit) late jam service check

Use this procedure for the following jams:

- 291.02

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 3.	Remove all contaminates from the media path.
3	Check the sensor (ADF media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF media exit) Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (ADF media exit) for proper connection. Is the above component properly connected?	Replace the sensor (ADF media exit). Go to Go to **“Sensor (standard bin exit) actuator assembly removal” on page 4-89** or **“Sensor (ADF media exit) bracket assembly removal (X651)” on page 4-90**.	Replace the connection.
5	Check the ADF transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF transport drive motor assembly. Go to **“ADF transport drive motor bracket assembly w/ cable removal” on page 4-77**.	Replace the connection.
6	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **“ADF controller card removal” on page 4-67**. Go to step 7.	Problem solved.
7	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

ADF top door open jam service check

Use this procedure for the following jams:

- 292.00

Step	Check	Yes	No
1	Remove all documents from the ADF. Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Go to step 2.	Problem solved
2	Check the sensor (ADF top door interlock) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF top door interlock)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (ADF top door interlock) for proper connection. Is the above component properly connected?	Replace the sensor (ADF top door interlock). Go to **“Sensor (ADF top door interlock) removal” on page 4-80**.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **“ADF controller card removal” on page 4-67**. Go to step 5.	Problem solved.
5	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Media missing jam service check

Use this procedure for the following jams:

- 293.00

Step	Check	Yes	No
1	Remove all documents from the ADF. Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Go to step 2.	Problem solved

Step	Check	Yes	No
2	Check the sensor (ADF document set) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Touch **TBD** Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
3	Check the sensor (2nd scan) for proper connection. Is the above component properly connected?	Replace the sensor (ADF document set). Go to **"Sensor (ADF document set) removal" on page 4-83**.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **"ADF controller card removal" on page 4-67**. Go to step 5.	Problem solved.
5	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (ADF media exit) static jam service check

Use this procedure for the following jams:

- 294.00

1	Check the media path. Is the media path free of media or media fragments?	Go to step 2.	Remove any media or media fragments.
2	Check the sensor (ADF media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line "sensor (ADF media exit)" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.

3	Check the sensor (ADF media exit) for proper connection. Is the above component properly connected?	Replace the sensor (ADF media exit). Go to **"Sensor (standard bin exit) actuator assembly removal" on page 4-89** or **"Sensor (ADF media exit) bracket assembly removal (X651)" on page 4-90**.	Replace the connection.
4	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **"ADF controller card removal" on page 4-67**. Go to step 5.	Problem solved.
5	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (ADF media exit) late jam service check

Use this procedure for the following jams:

- 294.01

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll assembly. Go to **"ADF feed / pick roll assembly removal" on page 4-61** or **"ADF separator torque limiter assembly removal" on page 4-63**.

Step	Check	Yes	No
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	Check the sensor (ADF media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF media exit) Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF media exit) for proper connection. Is the above component properly connected?	Replace the sensor (ADF media exit). Go to **“Sensor (standard bin exit) actuator assembly removal” on page 4-89** or **“Sensor (ADF media exit) bracket assembly removal (X651)” on page 4-90**	Replace the connection.
6	Check the ADF transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF transport drive motor assembly. Go to **“ADF transport drive motor bracket assembly w/ cable removal” on page 4-77**.	Replace the connection.
7	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **“ADF controller card removal” on page 4-67**. Go to step 8.	Problem solved.
8	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (ADF media exit) lingering jam service check

Use this procedure for the following jams:

- 294.03

Step	Check	Yes	No
1	Check the original document condition. Is the original document free of paper clips and staples as well as damage such as creases, tears, holes or excessive wear?	Go to step 2.	Remove damaged original document and replace with a new undamaged original document. Perform a ADF test. If the problem remains, go to step 2.
2	Check the ADF rolls for wear. Is the ADF feed/pick roll assembly or the ADF separation roll guide assembly free of excess wear?	Go to step 3.	Clean or replace the ADF feed/pick roll assembly or the ADF separation roll assembly. Go to **"ADF feed / pick roll assembly removal" on page 4-61** or **"ADF separator torque limiter assembly removal" on page 4-63**.
3	Check the media path for contaminates. Is the media path free of excess media dust and foreign objects such as paper clips and staples?	Go to step 4.	Remove all contaminates from the media path.
4	Check the sensor (ADF media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line "sensor (ADF media exit)" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (ADF media exit) for proper connection. Is the above component properly connected?	Replace the sensor (ADF media exit). Go to **"Sensor (standard bin exit) actuator assembly removal" on page 4-89** or **"Sensor (ADF media exit) bracket assembly removal (X651)" on page 4-90**.	Replace the connection.

Step	Check	Yes	No
6	Check the ADF transport drive motor assembly for proper connection. Is the above component properly connected?	Replace the ADF transport drive motor assembly. Go to **"ADF transport drive motor bracket assembly w/ cable removal" on page 4-77**.	Replace the connection.
7	Place an undamaged document in the ADF, and perform a ADF test. Does the error remain?	Replace the ADF controller card assembly. Go to **"ADF controller card removal" on page 4-67**. Go to step 8.	Problem solved.
8	Perform a print test using the ADF. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (input) late jam service check

Use this procedure for the following jams:

- 200.07
- 230.04
- 230.06
- 237.00
- 239.11
- 241.06
- 214.10
- 241.11
- 241.12
- 241.14
- 241.15
- 241.16
- 241.18
- 242.09
- 250.03
- 250.06
- 250.07
- 250.08
- 250.09
- 250.10
- 250.11
- 260.07
- 260.10
- 260.11
- 260.12
- 260.14
- 260.15
- 260.16

Step	Check	Yes	No
1	Check the media size setup and tray guides for all media trays. Does the media size, in use, match the size set for all media trays?	Go to step 2.	Replace the media, or change the media size setup.
2	Check the media trays for overfilling. Are any of the media trays overfilled?	Remove any excess new media.	Go to step 3
3	Check the media condition in all media trays. Is any of the media in any of the media trays crumpled or damaged?	Replace the damaged media with new.	Go to step 4.
4	Check the media tray pass through areas for obstructions. Are the pass through areas in all the media trays free from obstructions?	Go to step 5.	Remove obstructions.
5	Check media origination. Did the media originate from the MPF?	Go to step 6.	Go to step 8.
6	Check the MPF pick roll assembly. Is the above component free of excess wear and contamination?	Go to step 7.	Clean or replace the MPF pick roll assembly. Go to **"MPF pick roll assembly removal" on page 4-26**.
7	Perform a MPF print test and check the MPF pick solenoid for proper operation. Does the above component operate properly?	Go to step 17.	Replace the MPF pick solenoid. Go to **"MPF pick solenoid assembly removal" on page 4-26**.
8	Check media origination. Did the media originate from the internal duplex?	Go to step 9	Go to step 13
9	Check the internal duplex media path for obstructions. Is the above component free from obstructions?	Go to step 10	Remove obstructions.

Step	Check	Yes	No
10	Check the sensor (duplex input) for proper operation. 1. Enter the diagnostic mode 2. Select Duplex tests 3. Select sensor test 4. Observe the line item “input” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 12.	Go to step 11.
11	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the Sensor (duplex input). Go to **“Sensor (duplex input) removal” on page 4-41**.	Replace the connection.
12	Perform a print test and check the duplex drive motor assembly for proper operation. Does the above component operate properly?	Go to step 17.	Replace the duplex drive motor assembly. Go to **“Duplex drive motor assembly removal” on page 4-9**.
13	Check media origination. Did the media originate from the external duplex?	Go to step 14.	Go to step 16.
14	Check the sensor (duplex input) for proper operation. 1. Enter the diagnostic mode 2. Select Duplex tests 3. Select sensor test 3. Observe the line item “input” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 15.	Replace the external duplex assembly.
15	Check the sensor (duplex exit) for proper operation. 1. Enter the diagnostic mode 2. Select Duplex tests 3. Select sensor test 3. Observe the line item “exist” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 17.	Replace the external duplex assembly.
16	Check the two pick roll assemblies in the media tray being picked from. Are the above components free of excess wear and contamination?	Go to step 17.	Clean or replace the pick roll assembly. Go to **“Pick roll assembly removal” on page 4-31.**
17	Check the aligner assembly for obstructions. Is the above component free from obstructions?	Go to step 18.	Remove obstructions.

Step	Check	Yes	No
18	Check the sensor (input) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor test 3. Observe the line item “input” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	The sensor is working properly. Go to step 20.	Go to step 19.
19	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the Sensor (input). Go to **“Sensor (input) removal” on page 4-42**.	Replace the connection.
20	Perform a print test and check the pick arm assembly. Is the media properly picked and advanced out of the media tray?	Go to step 21.	Replace the pick arm assembly. Go to **“Pick arm assembly removal” on page 4-29**.
21	Perform a print test and check the main motor assembly. Is the media properly transported and able to reach the sensor (input)?	Go to step 22.	Replace the main drive motor assembly. Go to **“Main drive motor assembly removal” on page 4-20**.
22	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (input) lingering jam service check

Use this procedure for the following jams:

- 200.01
- 200.02
- 200.17
- 200.18
- 200.19
- 200.27
- 200.28
- 200.29
- 200.37
- 200.38
- 200.39
- 200.47
- 200.48
- 200.49
- 200.57
- 200.58
- 200.59

Step	Check	Yes	No
1	Check the media size setup and tray guides for all media trays. Does the media size, in use, match the size set for all media trays?	Go to step 2.	Replace the media, or change the media size setup.
2	Check the fuser unit assembly for obstructions. Is the above component free of obstructions?	Remove obstructions.	Go to step 3.
3	Check the fuser unit assembly for excess wear and damage. Is the above component free of excess wear and damage?	Go to step 4.	Replace the fuser unit assembly. Go to **“Fuser unit assembly removal” on page 4-15**.

Step	Check	Yes	No
4	Check the sensor (input) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor test 3. Observe the line item “input” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 6.	Go to step 5.
5	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (input). Go to **“Sensor (input) removal” on page 4-42**.	Replace the connection.
6	Check the sensor (fuser output) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor test 3. Observe the line item “exit” Caution: The area around the actuator is very hot. Allow the fuser area to cool before proceeding. Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 8.	Go to step 7.
7	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the fuser unit assembly. Go to **“Fuser unit assembly removal” on page 4-15**.	Replace the connection.
8	Perform a print test and check the main motor assembly. Is the media properly transported and able to reach the sensor (fuser output)?	Replace the main drive motor assembly. Go to **“Main drive motor assembly removal” on page 4-20**.	Replace the connection.
9	Check the aligner assembly for obstructions. Is the above component free from obstructions?	Go to step 10.	Remove obstructions.
10	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (input) early jam service check

Use this procedure for the following jams:

- 200.04
- 200.06
- 200.08
- 200.14
- 200.33

Step	Check	Yes	No
1	Check media origination. Did the media originate from the MPF?	Go to step 2.	Go to step 5.
2	Check the MPF pick roll assembly. Is the above component free of excess wear and contamination?	Go to step 3.	Clean or replace the MPF pick roll assembly. Go to Go to Go to **"MPF pick roll assembly removal" on page 4-26**.
3	Perform a MPF print test and check the MPF pick solenoid for proper operation. Does the above component operate properly?	Go to step 4.	Replace the MPF pick solenoid. Go to **"MPF pick solenoid assembly removal" on page 4-26**.
4	Check the MPF lift plate assembly for damage. Is the above component free from damage?	Go to step 5.	Replace the MPF lift plate assembly. Go to **"MPF lift plate assembly removal" on page 4-25**.
5	Check all the media trays for proper media installation. Is the media properly installed in all the media trays?	Go to step 6.	Remove and properly re-install the media.
6	Check all of the media trays and the media path for partially fed media. Are the media trays and the media path free from any partially fed pieces of media?	Go to step 7.	Remove any pre-staged or jammed media.
7	Check the sensor (input) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor test 3. Observe the line item "input" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 9.	Go to step 8.
8	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the Sensor (input). Go to **"Sensor (input) removal" on page 4-42**.	Replace the connection.
9	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (input) static jam service check

Use this procedure for the following jams:

- 200.13

Step	Check	Yes	No
1	Check the media path for partially fed or jammed media. Is the media path free from partially fed or jammed media?	Go to step 2.	Remove any pre-staged or jammed media.
2	Check the sensor (input) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor test 3. Observe the line item “input” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 4.	Go to step 3.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the Sensor (input). Go to **“Sensor (input) removal” on page 4-42**.	Replace the connection.
4	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (fuser output) late jam service check

Use this procedure for the following jams:

- 201.02
- 201.07
- 201.27
- 201.32
- 201.50
- 201.52
- 201.57
- 201.75
- 201.77
- 201.82

Step	Check	Yes	No
1	Check the media size setup and tray guides for all media trays. Does the media size, in use, match the size set for all media trays?	Go to step 2.	Replace the media, or change the media size setup.
2	Check all the media trays for proper media installation. Is the media properly installed in all the media trays?	Go to step 3.	Remove and properly re-install the media.
3	Check the fuser unit assembly for damage and life expiration. Is the above component damaged or has it exceeded life?	Replace the fuser unit assembly. Go to **“Fuser unit assembly removal” on page 4-15**.	Go to step 4.
4	Check the fuser unit assembly for obstructions. Is the above component free from obstructions?	Go to step 5.	Remove obstructions.
5	Check the sensor (fuser output) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor tests 3. Observe the line item “output” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 7.	Go to step 6.

Step	Check	Yes	No
6	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Replace the connection.
7	Check the aligner assembly for obstructions. Is the above component free from obstructions?	Go to step 8.	Remove obstructions.
8	Check the transfer roll assembly for damage. Is the above component free from damage?	Go to step 9.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
9	Perform a print test and check the main motor assembly. Is the media properly transported and able to reach the sensor (fuser output)?	Go to step 10.	Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**.
10	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (fuser output) lingering jam service check

Use this procedure for the following jams:

- 202.01
- 202.02
- 202.07
- 202.10
- 202.11
- 202.12
- 202.26
- 202.27
- 202.32
- 202.34
- 202.35
- 202.36
- 202.37
- 202.51
- 202.52
- 202.57
- 202.59
- 202.60
- 202.61
- 202.62
- 202.76
- 202.77
- 202.82
- 202.84
- 202.85
- 202.86
- 202.87

Step	Check	Yes	No
1	Check the media size setup and tray guides for all media trays. Does the media size, in use, match the size set for all media trays?	Go to step 2.	Replace the media, or change the media size setup.
2	Check all the media trays for proper media installation. Is the media properly installed in all the media trays?	Go to step 3.	Remove and properly re-install the media.
3	Check the door assembly, rear. Is the above component properly closed?	Go to step 4.	Open then properly close the door assembly, rear.

Step	Check	Yes	No
4	Check the fuser unit assembly for damage and life expiration. Is the above component damaged or has it exceeded life?	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Go to step 5.
5	Check the sensor (fuser output) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor tests 3. Observe the line item "output" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 7.	Go to step 6.
6	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Replace the connection.
7	Check the redrive assembly for damage. Is the above component free from damage?	Go to step 8.	Replace the redrive assembly. Go to **"Redrive assembly removal" on page 4-60**.
8	Perform a print test and check the redrive motor assembly for proper operation. Does the above component operate properly?	Go to step 9.	Replace the redrive motor assembly. Go to **"Redrive motor assembly removal" on page 4-38**.
9	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (fuser output) static jam service check

Use this procedure for the following jams:

- 202.06
- 202.13
- 202.31
- 202.38
- 202.56
- 202.63
- 202.81
- 202.88

Step	Check	Yes	No
1	Check the media path for partially fed or jammed media. Is the media path free from partially fed or jammed media?	Go to step 2.	Remove any pre-staged or jammed media.
2	Check the sensor (fuser output) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor test 3. Observe the line item “input” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 4.	Go to step 3.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the fuser unit assembly. Go to **“Fuser unit assembly removal” on page 4-15**.	Replace the connection.
4	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (narrow media) late jam service check

Use this procedure for the following jams:

- 201.04
- 201.06
- 201.29
- 201.31
- 201.54
- 201.56
- 201.79
- 201.81

Step	Check	Yes	No
1	Check the media size setup and tray guides for all media trays. Does the media size, in use, match the size set for all media trays?	Go to step 2.	Replace the media, or change the media size setup.
2	Check all the media trays for proper media installation. Is the media properly installed in all the media trays?	Go to step 3.	Remove and properly re-install the media.
3	Check the fuser unit assembly for damage and life expiration. Is the above component damaged or has it exceeded life?	Replace the fuser unit assembly. Go to **“Fuser unit assembly removal” on page 4-15**.	Go to step 4.
4	Check the fuser unit assembly for obstructions. Is the above component free from obstructions?	Go to step 5.	Remove obstructions.

Step	Check	Yes	No
5	Check the sensor (narrow media) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor tests 3. Observe the line item “output” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 7.	Go to step 6.
6	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the fuser unit assembly. Go to **“Fuser unit assembly removal” on page 4-15**.	Replace the connection.
7	Check the aligner assembly for obstructions. Is the above component free from obstructions?	Go to step 8.	Remove obstructions.
8	Check the transfer roll assembly for damage. Is the above component free from damage?	Go to step 9.	Replace the transfer roll assembly. Go to **“Transfer roll assembly removal” on page 4-56**.
9	Perform a print test and check the main motor assembly. Is the media properly transported and able to reach the sensor (fuser output)?	Go to step 10.	Replace the main drive motor assembly. Go to **“Main drive motor assembly removal” on page 4-20**.
10	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (narrow media) static jam service check

Use this procedure for the following jams:

- 202.03
- 202.13
- 202.28
- 202.38
- 202.53
- 202.63
- 202.78
- 202.88

Step	Check	Yes	No
1	Check the media path for partially fed or jammed media. Is the media path free from partially fed or jammed media?	Go to step 2.	Remove any pre-staged or jammed media.

Step	Check	Yes	No
2	Check the sensor (narrow media) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor test 3. Observe the line item “input” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 4.	Go to step 3.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the fuser unit assembly. Go to **“Fuser unit assembly removal” on page 4-15**.	Replace the connection.
4	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (duplex input) late jam service check

Use this procedure for the following jams:

- 230.02
- 231.00

Step	Check	Yes	No
1	Check the door assembly, rear. Is the above component properly closed?	Go to step 2.	Open then properly close the door assembly, rear.
2	Check the fuser access door. Is the above component properly closed?	Go to step 3.	Open then properly close the fuser access door.
3	Check media origination. Did the media originate from the internal duplex?	Go to step 4	Go to step 10
4	Check the internal duplex media path for obstructions. Is the above component free from obstructions?	Go to step 5	Remove obstructions.
5	Check the redrive assembly for damage. Is the above component free from damage?	Go to step 6	Replace the redrive assembly. Go to **“Redrive assembly removal” on page 4-60**.
6	Perform a print test and check the redrive motor assembly for proper operation. Does the above component operate properly?	Go to step 7.	Replace the redrive motor assembly. Go to **“Redrive motor assembly removal” on page 4-38**.

Step	Check	Yes	No
7	Perform a print test and check the duplex drive motor assembly for proper operation. Does the above component operate properly?	Go to step 8	Replace the duplex drive motor assembly. Go to **"Duplex drive motor assembly removal" on page 4-9**.
8	Check the sensor (duplex input) for proper operation. 1. Enter the diagnostic mode 2. Select Duplex tests 3. Select sensor test 4. Observe the line item "input" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 10.	Go to step 9.
9	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the Sensor (duplex input). Go to **"Sensor (duplex input) removal" on page 4-41**.	Replace the connection.
10	Perform a print test and check the duplex drive motor assembly for proper operation. Does the above component operate properly?	Go to step 14.	Replace the duplex drive motor assembly. Go to **"Duplex drive motor assembly removal" on page 4-9**.
11	Check the external duplex media path for obstructions. Is the above component free from obstructions?	Go to step 12	Remove obstructions.
12	Check the external duplex unit assembly for proper installation. Is the above component properly installed?	Go to step 13.	Remove then properly re-install the external duplex unit assembly.
13	Check the sensor (duplex input) for proper operation. 1. Enter the diagnostic mode 2. Select Duplex tests 3. Select sensor test 3. Observe the line item "input" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 14.	Replace the external duplex assembly.
14	Perform a print test using the duplex. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (duplex input) lingering jam service check

Use this procedure for the following jams:

- 230.01
- 230.05
- 232.00

Step	Check	Yes	No
1	Check media origination. Did the media originate from the internal duplex?	Go to step 2	Go to step 7
2	Check the internal duplex media path for obstructions. Is the above component free from obstructions?	Go to step 3	Remove obstructions.
3	Check the duplex guide assembly, front for damage. Is the above component free from damage?	Go to step 4.	Replace the duplex guide assembly, front. Go to **"Duplex guide assembly, front removal" on page 4-10**.
4	Check the sensor (duplex input) for proper operation. 1. Enter the diagnostic mode 2. Select Duplex tests 3. Select sensor test 4. Observe the line item "input" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 6.	Go to step 5.
5	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (duplex input). Go to **"Sensor (duplex input) removal" on page 4-41**.	Replace the connection.
6	Check the aligner assembly for obstructions. Is the above component free from obstructions?	Go to step 7.	Remove obstructions.
7	Check the external duplex media path for obstructions. Is the above component free from obstructions?	Go to step x	Remove obstructions.
8	Check the external duplex unit assembly for proper installation. Is the above component properly installed?	Go to step 9.	Remove then properly re-install the external duplex unit assembly.
9	Check the sensor (duplex input) for proper operation. 1. Enter the diagnostic mode 2. Select Duplex tests 3. Select sensor test 3. Observe the line item "input" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 10.	Replace the external duplex assembly.

Step	Check	Yes	No
10	Perform a print test using the duplex. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (duplex input) static jam service check

Use this procedure for the following jams:

- 230.13
- 238.01
- 238.03
- 238.05
- 238.07

Step	Check	Yes	No
1	Check media origination. Did the media originate from the internal duplex?	Go to step 2	Go to step 5
2	Check the media path for partially fed or jammed media. Is the media path free from partially fed or jammed media?	Go to step 3.	Remove any pre-staged or jammed media.
3	Check the sensor (duplex input) for proper operation. 1. Enter the diagnostic mode 2. Select Duplex tests 3. Select sensor test 4. Observe the line item “input” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 7.	Go to step 4.
4	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (duplex input). Go to **“Sensor (duplex input) removal” on page 4-41**.	Replace the connection.
5	Check the media path for partially fed or jammed media. Is the media path free from partially fed or jammed media?	Go to step 6.	Remove any pre-staged or jammed media.
6	Check the sensor (duplex input) for proper operation. 1. Enter the diagnostic mode 2. Select Duplex tests 3. Select sensor test 3. Observe the line item “input” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 7.	Replace the external duplex assembly.
7	Perform a print test using the duplex. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Sensor (pass through) late jam service check

Use this procedure for the following jams:

- 242.02
- 242.03
- 242.04
- 242.05
- 242.06
- 242.10
- 242.16
- 242.37
- 243.02
- 243.03
- 243.04
- 243.04
- 243.05
- 243.06
- 243.10
- 243.16
- 243.37
- 244.02
- 244.03
- 244.04
- 244.05
- 244.06
- 244.10
- 244.16
- 244.37
- 245.02
- 245.03
- 245.04
- 245.05
- 245.06
- 245.10
- 245.13
- 245.16
- 245.37

Step	Check	Yes	No
1	Check the media size setup and tray guides for all media trays. Does the media size, in use, match the size set for all media trays?	Go to step 2.	Replace the media, or change the media size setup.
2	Check the media trays for overfilling. Are any of the media trays overfilled?	Remove any excess new media.	Go to step 3
3	Check the media condition in all media trays. Is any of the media in any of the media trays crumpled or damaged?	Replace the damaged media with new.	Go to step 4.
4	Check the media tray pass through areas for obstructions. Are the pass through areas in all the media trays free from obstructions?	Go to step 5.	Remove obstructions.
5	Check the two pick roll assemblies in the media tray being picked from. Are the above components free of excess wear and contamination?	Go to step 6.	Clean or replace the pick roll assembly. Go to **"Pick roll assembly removal" on page 4-31.**
6	Check the appropriate media tray sensor (pass through) for proper operation. 1. Enter the diagnostic mode 2. Select Input tray tests 3. Sensor test 4. Select the appropriate tray number 3. Observe the line item "pass through" for the appropriate media tray Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 7.	Go to step 6.
7	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the appropriate Sensor (pass through). Go to **"Sensor (pass through) with cable removal" on page 4-198**.	Replace the connection.

Step	Check	Yes	No
8	Perform a print test and check the pick arm assembly for the appropriate media tray. Is the media properly picked and advanced out of the appropriate media tray?	Go to step 8.	Replace the appropriate pick arm assembly. Go to **"Pick arm assembly removal" on page 4-29**.
9	Perform a print test and check the main motor assembly. Is the media properly transported through the pass through areas of the media trays?	Go to step 9.	Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**.
10	Perform a print test using the appropriate input tray. Does the error continue?	Replace the input option.	Problem solved.

Sensor (pass through) lingering jam service check

Use this procedure for the following jams:

- 242.08
- 242.40
- 243.08
- 243.40
- 244.08
- 244.40
- 245.08
- 245.40

Step	Check	Yes	No
1	Check the media size setup and tray guides for all media trays. Does the media size, in use, match the size set for all media trays?	Go to step 2.	Replace the media, or change the media size setup.
2	Check the media tray pass through areas for obstructions. Are the pass through areas in all the media trays free from obstructions?	Go to step 3.	Remove obstructions.
3	Check the appropriate media tray sensor (pass through) for proper operation. 1. Enter the diagnostic mode 2. Select Input tray tests 3. Sensor test 4. Select the appropriate tray number 3. Observe the line item "pass through" for the appropriate media tray Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 5.	Go to step 4.

Step	Check	Yes	No
4	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the appropriate Sensor (pass through). Go to **"Sensor (pass through) with cable removal" on page 4-198**.	Replace the connection.
5	Perform a print test and check the main motor assembly. Is the media properly transported through the pass through areas of the media trays?	Replace the main drive motor assembly. Go to **"Main drive motor assembly removal" on page 4-20**.	Replace the connection.
6	Perform a print test using the appropriate input tray. Does the error continue?	Replace the input option.	Problem solved.

Sensor (pass through) static jam service check

Use this procedure for the following jams:

- 242.13
- 242.36
- 243.13
- 243.36
- 244.13
- 244.36
- 245.13
- 245.36

Step	Check	Yes	No
1	Check the media path for partially fed or jammed media. Is the media path free from partially fed or jammed media?	Go to step 2.	Remove any pre-staged or jammed media.
2	Check the appropriate media tray sensor (pass through) for proper operation. 1. Enter the diagnostic mode 2. Select Input tray tests 3. Sensor test 4. Select the appropriate tray number 3. Observe the line item "pass through" for the appropriate media tray Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 5.	Go to step 4.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the appropriate sensor (pass through). Go to **"Sensor (pass through) with cable removal" on page 4-198**.	Replace the connection.
4	Perform a print test using the appropriate input tray. Does the error continue?	Replace the input option.	Problem solved.

Sensor (stapler pass through) late jam service check

Step	Check	Yes	No
1	Check the output option for proper installation. Is the above component properly installed?	Go to step 2.	Remove then reinstall the output option
2	Check for obstructions in the media path between the base machine and the output option. Is the media path free from obstructions?	Go to step 3.	Remove obstructions.
3	Check the sensor (stapler pass through) for proper operation. 1. Enter the diagnostic mode 2. Select Finisher sensor test 3. Select Sensor test 4. Select pass & media 5. Observe the line item “passthru” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 5.	Go to step 4.
4	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the output option.	Replace the connection.

Sensor (stapler pass through) lingering jam service check

Step	Check	Yes	No
1	Check the output option for proper installation. Is the above component properly installed?	Go to step 2.	Remove then reinstall the output option
2	Check for obstructions in the media path between the Sensor (stapler pass through) machine and the media bin. Is the media path free from obstructions?	Go to step 3.	Remove obstructions.
3	Check the sensor (stapler pass through) for proper operation. 1. Enter the diagnostic mode 2. Select Finisher sensor test 3. Select Sensor test 4. Select pass & media 5. Observe the line item “passthru” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 5.	Go to step 4.
4	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the output option.	Replace the connection.

Sensor (stapler pass through) static jam service check

Step	Check	Yes	No
1	Check the media path for partially fed or jammed media. Is the media path free from partially fed or jammed media?	Go to step 2.	Remove any pre-staged or jammed media.
2	Check the sensor (stapler pass through) for proper operation. 1. Enter the diagnostic mode 2. Select Finisher sensor test 3. Select Sensor test 4. Select pass & media 5. Observe the line item “passthru” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 4.	Go to step 3.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the output option.	Replace the connection.

Sensor (output pass through) late jam service check

Step	Check	Yes	No
1	Check the output option for proper installation. Is the above component properly installed?	Go to step 2.	Remove then reinstall the output option
2	Check for obstructions in the media path between the base machine and the output option. Is the media path free from obstructions?	Go to step 3.	Remove obstructions.
3	Check the sensor (output pass through) for proper operation. 1. Enter the diagnostic mode 2. Select Output bin tests 3. Select Sensor test 4. Select Output bin x 5. Observe the line item “passthru” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 5.	Go to step 4.
4	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (output pass through). Go to **“4-bin mailbox assembly sensor (pass through) removal” on page 4-232**.	Replace the connection.
5	Perform a print test using the output option. Does the error continue?	Replace the output option.	Problem solved.

Sensor (output pass through) lingering jam service check

Step	Check	Yes	No
1	Check the output option for proper installation. Is the above component properly installed?	Go to step 2.	Remove then reinstall the output option
2	Check for obstructions in the media path between the Sensor (output pass through) machine and the media bin. Is the media path free from obstructions?	Go to step 3.	Remove obstructions.
3	Check the sensor (output pass through) for proper operation. 1. Enter the diagnostic mode 2. Select Output bin tests 3. Select Sensor test 4. Select Output bin x 5. Observe the line item “passthru” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 5.	Go to step 4.
4	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (output pass through). Go to **“4-bin mailbox assembly sensor (pass through) removal” on page 4-232**.	Replace the connection.
5	Perform a print test using the output option. Does the error continue?	Replace the output option.	Problem solved.

Sensor (output pass through) static jam service check

Step	Check	Yes	No
1	Check the media path for partially fed or jammed media. Is the media path free from partially fed or jammed media?	Go to step 2.	Remove any pre-staged or jammed media.
2	Check the sensor (output pass through) for proper operation. 1. Enter the diagnostic mode 2. Select Output bin tests 3. Select Sensor test 4. Select Output bin x 5. Observe the line item “passthru” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 4.	Go to step 3.

Step	Check	Yes	No
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (output pass through). Go to **"4-bin mailbox assembly sensor (pass through) removal" on page 4-232**.	Replace the connection.
4	Perform a print test using the output option. Does the error continue?	Replace the output option.	Problem solved.

Sensor (mailbox empty) late jam service check

Step	Check	Yes	No
1	Check the output option for proper installation. Is the above component properly installed?	Go to step 2.	Remove then reinstall the output option
2	Check for obstructions in the media path between the base machine and the output option. Is the media path free from obstructions?	Go to step 3.	Remove obstructions.
3	Check the sensor (mailbox empty) for proper operation. 1. Enter the diagnostic mode 2. Select Output bin tests 3. Select Sensor test 4. Select Output bin x 5. Observe the line item "mailbox empty" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 5.	Go to step 4.
4	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (mailbox empty). Go to **"4-bin mailbox assembly sensor (mailbox empty) removal" on page 4-233**.	Replace the connection.
5	Perform a print test using the output option. Does the error continue?	Replace the output option.	Problem solved.

Sensor (mailbox empty) lingering jam service check

Step	Check	Yes	No
1	Check the output option for proper installation. Is the above component properly installed?	Go to step 2.	Remove then reinstall the output option

Step	Check	Yes	No
2	Check for obstructions in the media path between the Sensor (mailbox empty) machine and the media bin. Is the media path free from obstructions?	Go to step 3.	Remove obstructions.
3	Check the sensor (mailbox empty) for proper operation. 1. Enter the diagnostic mode 2. Select Output bin tests 3. Select Sensor test 4. Select Output bin x 5. Observe the line item “mailbox empty” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 5.	Go to step 4.
4	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (mailbox empty). Go to **“4-bin mailbox assembly sensor (mailbox empty) removal” on page 4-233**.	Replace the connection.
5	Perform a print test using the output option. Does the error continue?	Replace the output option.	Problem solved.

Sensor (mailbox empty) static jam service check

Step	Check	Yes	No
1	Check the media path for partially fed or jammed media. Is the media path free from partially fed or jammed media?	Go to step 2.	Remove any pre-staged or jammed media.
2	Check the sensor (mailbox empty) for proper operation. 1. Enter the diagnostic mode 2. Select Output bin tests 3. Select Sensor test 4. Select Output bin x 5. Observe the line item “passthru” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked.	Go to step 4.	Go to step 3.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (mailbox empty). Go to **“4-bin mailbox assembly sensor (mailbox empty) removal” on page 4-233**.	Replace the connection.
4	Perform a print test using the output option. Does the error continue?	Replace the output option.	Problem solved.

Sensor (toner empty) service check

Step	Check	Yes	No
1	Check the sensor (toner empty) for proper installation. Is the above component properly installed?	go to step 2.	Reinstall the sensor (toner empty)
2	Check the sensor (toner empty) for proper operation. 1. Enter the diagnostic mode 2. Select Base sensor test 3. Observe the line item “toner empty” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	The sensor is working properly.	Go to step 3.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (toner empty). Go to **“Sensor (toner empty) removal” on page 4-41**.	Replace the connection.

Sensor (scanner HP) service check

Step	Check	Yes	No
1	Check the sensor (scanner HP) for proper installation. Is the above component properly installed?	Go to step 2.	Reinstall the sensor (scanner HP)
2	Check the sensor (scanner HP) for proper operation. 1. Enter the diagnostic mode 2. Select Scanner tests 3. Select Sensor tests 4. Observe the line item “Scanner HP” Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	The sensor is working properly.	Go to step 3.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (scanner HP). Go to **“Sensor (scanner HP) assembly w/ bracket removal” on page 4-154**.	Replace the connection.

Sensor (ADF 2nd scan) late jam service check

Step	Check	Yes	No

1	Check the sensor (ADF 2nd scan) for proper installation. Is the above component properly installed?	Go to step 2.	Reinstall the sensor (ADF 2nd scan)
2	Check the sensor (ADF 2nd scan) for proper operation. 1. Enter the diagnostic mode 2. Select Scanner tests 3. Select Sensor tests 4. Observe the line item “ADF 2nd scan” Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	The sensor is working properly.	Go to step 3.
3	Check the above sensor for proper connection. Is the above sensor connected properly?	Replace the sensor (ADF 2nd scan). Go to **“Sensor (ADF 2nd scan) removal” on page 4-81**.	Replace the connection.

NVRAM mismatch failure (950.00 through 950.29) service check

Warning: When replacing any of the following components:

- Scanner interface card assembly
- System card assembly

Only replace one component at a time. replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

Warning: These components can be used as a method of troubleshooting as long as the machine is booted into diagnostic mode or is operating in diagnostic mode. Once a component has been installed in a machine and powered up into user mode, it cannot be used in another machine. It must be returned to the manufacturer.

Step	Check	Yes	No
1	Check the operator panel assembly. Was the operator panel assembly recently replaced?	Go to step 3.	Go to step 2.
2	Check the system card assembly. Was the system card assembly recently replaced?	Go to step 4.	Contact next level of support.
3	Replace the current operator panel assembly with the original operator panel assembly. Does the error remain?	Go to step 5.	Problem solved.
4	Replace the current system card assembly with the original system card assembly. Go to **“System card assembly removal” on page 4-50**.	Go to step 6.	Problem solved.
5	If problem continues, replace the original operator panel assembly with a new and not previously installed operator panel assembly. Does the error continue?	Contact the next level of support.	Problem solved.
6	If the problem continues, replace the original panel assembly with a new ann not previously installed operator panel door assembly or the operator panel assembly. Go to **“USB cable removal (model X658)” on page 4-114**. Go to **“Operator panel assembly removal (model X658)” on page 4-109**.	Contact the next level of support.	Problem solved.

Image quality trouble

Printer Related Troubleshooting

Note: First, get a printout as a base, and follow the symptom table to identify the possible failing FRU's.

Image quality symptoms

- Faint print (low contrast)— **"Faint print (Low contrast)" on page 2-152**.
- Blank print (no print)— **"Blank print (no print)" on page 2-154**.
- Solid black— **"Solid black" on page 2-156**.
- Vertical blank lines (White stripes in media transport direction)— **"Vertical lines and bands (process direction)" on page 2-157**.
- Horizontal band—**"Horizontal white stripes or bands (side to side direction)" on page 2-158**
- Vertical stripes— **"Vertical stripes (process direction)" on page 2-159**.
- Horizontal stripes— **"Horizontal stripes (side to side direction)" on page 2-160**.
- Partial lack— **"Partial lack" on page 2-162**.
- Spots— **"Spots" on page 2-163**.
- Afterimage— **"After image" on page 2-165**.
- Background (fog)— **"Background (fog)" on page 2-166**.
- Skew—**"Skew" on page 2-167**.
- Media damage— **"Media damage" on page 2-168**.
- No fuse—**"No fuse" on page 2-170**.

Note: When horizontal lines and/or spots occur periodically, it is possibly caused by a particular roll. In this case, measure the interval on the print test, and check the relation to the roll in the printer. The interval does not necessarily match circumference of the roll.

Image Quality

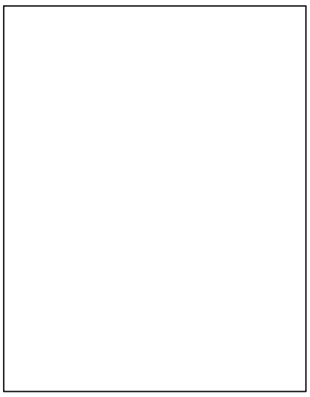
Faint print (Low contrast)

Before starting, check the media route for foreign objects, such as staples, clips, and scraps, in the media path.

Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media, and perform a print test. Is the image density normal?	Problem solved.	Go to step 2.
2	Check the toner level. Is the toner level normal?	Go to step 3.	Replace the print cartridge.
3	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 4.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
4	Check the print cartridge for proper installation. Is the print cartridge properly installed?	Go to step 5.	Inspect, clean and reinstall replace the print cartridge.
5	Check the laser beam route. Check for debris between the printhead assembly and the PC drum. Is the laser beam route free of debris and the glass window, in the printhead assembly, free of contamination?	Go to step 6.	Remove debris or clean the printhead assembly window.
6	Check the HVPS card assembly for proper connection. Is the above component properly connected?	Replace the HVPS card assembly. Go to **"HVPS card assembly removal" on page 4-17**.	Replace the connections.

Step	Check	Yes	No
7	Check the printhead assembly for proper connection. Is the above component properly connected?	Replace the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.	Replace the connections.
8	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Blank print (no print)



Check the media path for foreign objects such as staples, clips, scraps of media.

Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media, and perform a print test. Is the image density normal?	Problem solved.	Go to step 2.
2	Check the toner level. Is the toner level normal?	Go to step 3.	Replace the print cartridge.
3	Check the transfer roll assembly for proper installation? Is the above component properly installed?	Go to step 4.	Reinstall the transfer roll assembly.
4	Check the left and right transfer roll bracket. Are the above components free from damage?	Go to step 5.	Replace the left and or right transfer roll brackets. Go to **"Transfer roll bracket assembly, left removal" on page 4-57** and **"Transfer roll bracket assembly, right removal" on page 4-57**.
5	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 6.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
6	Check the print cartridge for proper installation. Is the print cartridge properly installed?	Go to step 7.	Inspect, clean and reinstall replace the print cartridge.

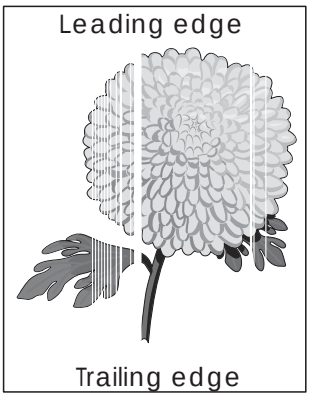
Step	Check	Yes	No
7	Check the laser beam route. Check for debris between the printhead assembly and the PC drum. Is the laser beam route free of debris and the glass window, in the printhead assembly, free of contamination?	Go to step 8.	Remove debris or clean the printhead assembly window.
8	Check the HVPS card assembly for proper connection. Is the above component properly connected?	Replace the HVPS card assembly. Go to **"HVPS card assembly removal" on page 4-17**.	Replace the connections.
9	Check the printhead assembly for proper connection. Is the above component properly connected?	Replace the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.	Replace the connections.
10	Check the system card assembly for proper connection. Is the above component properly connected?	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.	Replace the connections.

Solid black

Check the media path for foreign objects such as staples, clips, scraps of media.

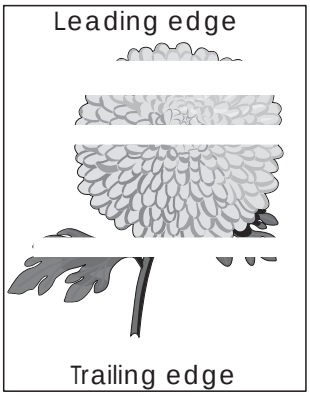
Step	Check	Yes	No
1	Check the charge roll assembly for proper installation. Is the above component properly installed?	Go to step 2.	Replace the charge roll assembly.
2	Check the print cartridge for proper installation. Is the above component properly installed?	Go to step 3.	Inspect, clean and reinstall replace the print cartridge.
3	Check the charge roll HVPS card assembly connections Is the above component properly connected?	Replace the HVPS card assembly. Go to **"HVPS card assembly removal" on page 4-17**.	Replace the connection.
4	Check the system card assembly for proper connection. Is the above component properly connected?	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.	Replace the connections.

Vertical lines and bands (process direction)



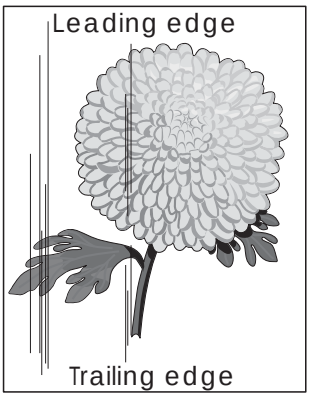
Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Is the media transfer route and the media path clear of debris?	Go to step 3.	Remove debris or contamination.
3	Check the laser beam route. Check for debris between the printhead assembly and the PC drum. Is the laser beam route free of debris and the glass window, in the printhead assembly, free of contamination?	Go to step 4.	Remove debris or clean the printhead assembly window.
4	Check the print cartridge for proper installation. Is the above component properly installed?	Go to step 5.	Inspect, clean and reinstall replace the print cartridge.
5	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 6.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
6	Check the printhead assembly for proper connection. Is the above component properly connected?	Replace the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.	Replace the connections.
7	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Horizontal white stripes or bands (side to side direction)



Step	Check	Yes	No
1	Check the media condition. Load new, dry, and recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Are the media transfer route and the media path free of contamination and debris?	Go to step 3.	Remove debris or contamination.
3	Check the toner level. Is the toner level normal?	Go to step 4.	Replace the print cartridge.
4	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 5.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
5	Check the printhead assembly for proper connection. Is the above component properly connected?	Replace the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.	Replace the connections.
6	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

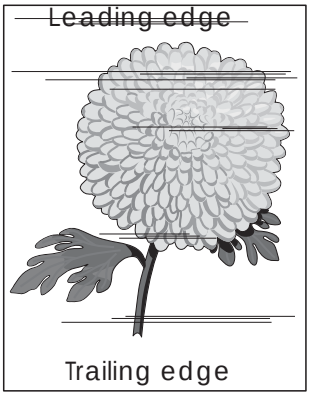
Vertical stripes (process direction)



Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Are the media transfer route and the media path free of contamination or debris?	Go to step 3.	Remove debris or contamination.
3	Check the charge roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 4.	Replace the charge roll assembly. Go to **"Charge roll assembly removal" on page 4-6**.
4	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 5.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
5	Check the print cartridge for proper installation. Is the above component properly installed?	Go to step 6.	Inspect, clean and reinstall replace the print cartridge.
6	Check the heat roll and pressure roll. Remove the fuser unit assembly. **CAUTION:** : Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Go to step 7.

Step	Check	Yes	No
7	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Horizontal stripes (side to side direction)



Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the media transfer route. Check the media route for contamination or obstacles.	Go to step 3.	Remove obstacles or contamination.
3	Check the print cartridge for proper installation. Is the above component properly installed?	Go to step 4.	Inspect, clean and reinstall replace the print cartridge.
4	Check the charge roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 5.	Replace the charge roll assembly. Go to **"Charge roll assembly removal" on page 4-6**.
5	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 6.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.

Step	Check	Yes	No
6	Check the heat roll and pressure roll. Remove the fuser unit assembly. **CAUTION:** : Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Go to step 7.
7	Check the HVPS card assembly for proper connection. Is the above component properly connected?	Replace the HVPS card assembly. Go to **"HVPS card assembly removal" on page 4-17**.	Replace the connections.
8	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Partial lack

Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the problem remain?	Go to step 2.	Problem solved.
2	Check the toner level. Is the toner level normal?	Go to step 3.	Replace the print cartridge.
3	Check the laser beam route. Check for debris between the printhead assembly and the PC drum. Is the laser beam route free of debris and the glass window, in the printhead assembly, free of contamination?	Go to step 4.	Remove debris or clean the printhead assembly window.
4	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 5.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
5	Check the printhead installation. Is the above component properly installed?	Go to step 6.	Reinstall and adjust the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.
6	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Spots

Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the media transfer route. Is the media route free of contamination or debris?	Go to step 3.	Remove debris or contamination.
3	Check the print cartridge for spots or other damage on the drum surfaces. Is the print cartridges free of excess wear and contamination?	Go to step 4.	Replace the print cartridge.
4	Check the charge roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 5.	Replace the charge roll assembly. Go to **"Charge roll assembly removal" on page 4-6**.
5	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 6.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
6	Check the heat roll and pressure roll. Remove the fuser unit assembly. **CAUTION:** : Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Go to step 7

Step	Check	Yes	No
7	Check the printhead installation. Is the above component properly installed?	Go to step 8.	Reinstall and adjust the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.
8	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

After image

The ghost appears on the media which, may be the image from the previous page or part of the page currently printing.

Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the heat roll and pressure roll. Remove the fuser unit assembly. **CAUTION:** : Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Go to step 4.
3	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Background (fog)

Step	Check	Yes	No
1	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check the media transfer route. Is the media path free of contamination or debris.	Go to step 3.	Remove debris or contamination.
3	Check the print cartridge for proper installation. Is the above component properly installed?	Go to step 4.	Inspect, clean and reinstall replace the print cartridge.
4	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 5.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
5	Check the HVPS card assembly for proper connection. Is the above component connected properly?	Go to step 6.	Replace the connections.
6	Check the printhead installation. Is the above component properly installed?	Go to step 7.	Reinstall and adjust the printhead assembly. Go to **"Printhead assembly removal" on page 4-34**.
7	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Skew

The printed image is not paralleled with both sides of the media.

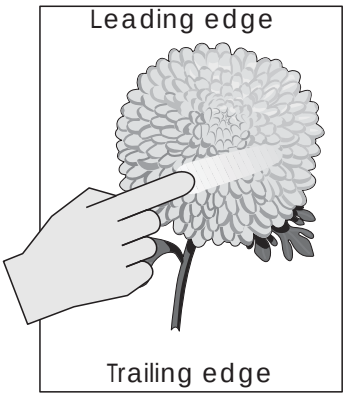
Step	Check	Yes	No
1	Check printer installation placement. Check the installation surface for irregularities. Check for damaged printer caster. Is the setup surface normal?	Go to step 2.	Correct the installation placement.
2	Properly load media into the media tray assembly and ensure all guides are set correctly. Properly install the media tray assembly into the printer. Re-print the defective image. Does the error continue?	Go to step 3.	Problem solved.
3	Check for obstructions in the area of the media feed units. Are the media feed unit assembly free from any obstructions?	Go to step 4.	Remove obstructions.
4	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 5.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
5	Check the alignment assembly for proper adjustment. Go to **"Alignment assembly adjustment" on page 4-3**. Does the problem remain?	Go to step 6.	Replace the aligner assembly. Go to **"Alignment assembly removal" on page 4-21**.
6	Perform a print test. Does the problem remain?	Contact next highest level of tech support.	Problem solved.

Media damage

Step	Check	Yes	No
1	Check printer installation placement. Check the installation surface for irregularities. Check for missing printer foot. Is the setup surface normal?	Go to step 2.	Correct the installation placement.
2	Check the media feed. Remove the media tray assembly. Properly load media in the media tray assembly. Properly install the media tray assembly in the printer. Re-print the defective image. Does the error continue?	Go to step 3.	Problem solved.
3	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the error continue?	Go to step 4.	Problem solved.
4	Check the transfer roll assembly for contamination and wear. Is the above component free of excess wear and contamination?	Go to step 5.	Replace the transfer roll assembly. Go to **"Transfer roll assembly removal" on page 4-56**.
5	Check the alignment assembly for proper adjustment. Go to **"Alignment assembly adjustment" on page 4-3**. Does the problem remain?	Go to step 6.	Replace the alignment assembly. Go to Go to **"Alignment assembly removal" on page 4-21**.

Step	Check	Yes	No
6	Check the heat roll and pressure roll. Remove the fuser unit assembly. **CAUTION:** : Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Inspect the machine for obstructions in the media path.

No fuse



Step	Check	Yes	No
1	Check the fuser unit assembly installation. Is the fuser unit assembly properly installed?	Go to step 2.	Reinstall the fuser unit assembly.
2	Check the media condition. Load new, dry, recommended media. Re-print the defective image. Does the problem remain?	Go to step 3.	Problem solved.
3	Check the heat roll and pressure roll. Remove the fuser unit assembly. **CAUTION:** : Allow the fuser unit assembly to cool down. Is there contamination or cracks on the heat roll and/or pressure roll?	Replace the fuser unit assembly. Go to **"Fuser unit assembly removal" on page 4-15**.	Go to step 4.
4	Check the LVPS card assembly for proper connection. Is the above component connected properly?	Replace the LVPS card assembly. Go to **"LVPS card assembly removal" on page 4-47**.	Remove then reinsert the LVPS card assembly.
5	Perform a print test. Does the problem remain?	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.	Problem solved.

ADF & Scanner Related Troubleshooting

Note: First, get a printout as a base, and follow the symptom table to identify the possible failing FRU's.

Image quality symptoms:

- Dark print — **"Faint print (Low contrast)" on page 2-152**.
- Vertical stripes— **"Vertical stripes (process direction)" on page 2-159**.
- Horizontal stripes— **"Horizontal stripes (side to side direction)" on page 2-160**.
- Spots— **"Spots" on page 2-163**.
- Skew—**"Skew" on page 2-167**.
- Media damage— **"Media damage" on page 2-168**.

Note: When horizontal lines and/or spots occur periodically, it is possibly caused by a particular roll. In this case, measure the interval on the print test, and check the relation to the roll in the printer. The interval does not necessarily match circumference of the roll.

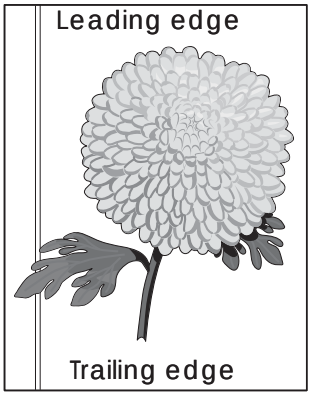
ADF & Scanner Image Quality

Dark image quality (using ADF or Scanner)

Before starting, check the media route for foreign objects, such as staples, clips, and scraps, in the media path.

Step	Check	Yes	No
1	Check the large and small platen glass on the scanner unit assembly. Is the large and small platen glass contaminated?	Clean both sides of the large and small platen glass.	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. Are the three mirrors contaminated or show signs of dust?	Clean the three mirrors in the scanner unit assembly.	Go to step 3.
3	Check the white strip on the bottom of the large platen glass. Is the white strip contaminated?	Clean the white strip and POR the machine.	Go to step 4.
4	Check the scanner lens. Is the scanner lens contaminated?	Clean the scanner lens.	Go to step 5.
5	Perform a print test using the ADF & scanner unit assemblies. Does the error continue?	Replace the CCD/card lens assembly. Go to	Problem solved.
6	Perform a print test using the ADF & scanner unit assemblies. Does the error continue?	Replace the scanner controller card assembly. Go to **"Scanner controller card assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-132**.	Problem solved.

Vertical lines (process direction using the ADF)



Step	Check	Yes	No
1	Check the small platen glass on the scanner unit assembly. Is the large and small platen glass contaminated or damaged?	Clean or replace the scanner platen glass cover. Go to **"Scanner platen glass cover assembly removal (model X658)" on page 4-139**.	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. Are the three mirrors contaminated or show signs of dust?	Clean the three mirrors in the scanner unit assembly.	Go to step 3.
3	Check the white strip on the bottom of the large platen glass. Is the white strip contaminated?	Clean the white strip and POR the machine.	Go to step 4.
4	Perform a print test using the scanner unit assembly. Does the error continue?	Replace the scanner unit assembly. Go to **"Scanner unit assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-94**.	Problem solved.

Step	Check	Yes	No
5	Perform a print test using the ADF unit assembly. Does the error continue?	Replace the scanner controller card assembly. Go to **"Scanner controller card assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-132**.	Problem solved.

Spots (using flatbed scanner)

Step	Check	Yes	No
1	Check the large platen glass on the scanner unit assembly. Is the large platen glass contaminated or damaged?	Clean or replace the scanner platen glass cover. Go to **"Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-140** or **"Scanner platen glass cover assembly removal (model X658)" on page 4-139.**	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. Are the three mirrors contaminated or show signs of dust?	Clean the three mirrors in the scanner unit assembly.	Go to step 3.

Step	Check	Yes	No
3	Check the white strip on the bottom of the large platen glass. Is the white strip contaminated?	Clean the white strip and POR the machine.	Go to step 4.
4	Perform a print test using the scanner CCD assembly. Does the error continue?	Replace the scanner CCD assembly. Go to **"Scanner CCD assembly removal" on page 4-91**.	Problem solved.
5	Perform a print test using the flatbed scanner assembly. Does the error continue?	Replace the scanner controller card assembly. Go to **"Scanner controller card assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-132**.	Problem solved.

Skew (using ADF)

The printed image is not paralleled with both sides of the media.

Step	Check	Yes	No
1	Check printer installation placement. Check the installation surface for irregularities. Check for damaged printer caster. Is the setup surface normal?	Go to step 2.	Correct the installation placement.
2	Properly load document into the ADF unit assembly and ensure all guides are set correctly. Re-print the defective image. Does the error continue?	Go to step 3.	Problem solved.
3	Check for obstructions in the area of the media feed path in the ADF. Is the media feed path free from any obstructions?	Go to step 4.	Remove obstructions.
4	Is the ADF left cover assembly properly and evenly closed.	Go to step 5.	Open then properly close the ADF left cover assembly.
5	Check the ADF/pick roll assembly for damage and wear. Is the ADF feed/pick roll assembly free from damage and wear?	Go to step 6.	Replace the ADF feed/pick roll assembly. Go to **"ADF feed / pick roll assembly removal" on page 4-61**.
6	Check the ADF separator roll. Is the ADF separator roll free from damage and wear?	Go to step 7.	Replace the ADF separation roll. Go to **"ADF separator roll removal" on page 4-62**.

Media damage (using ADF)

Step	Check	Yes	No
1	Properly load document into the ADF unit assembly and ensure all guides are set correctly. Re-print the defective image. Does the error continue?	Go to step 2.	Problem solved.
2	Check for obstructions in the area of the media feed path in the ADF. Is the media feed path free from any obstructions?	Go to step 3.	Remove obstructions.
3	Is the ADF left cover assembly properly and evenly closed.	Go to step 4.	Open then properly close the ADF left cover assembly.
4	Check the ADF/pick roll assembly for damage and wear. Is the ADF feed/pick roll assembly free from damage and wear?	Go to step 5.	Replace the ADF feed/pick roll assembly. Go to **"ADF feed / pick roll assembly removal" on page 4-61**.
5	Check the ADF separator roll. Is the separator roll free from damage and wear?	Go to step 6.	Replace the separator roll. Go to **"ADF separator roll removal" on page 4-62**.
6	Check the ADF controller card assembly. Replace the ADF controller card assembly. Go to **"ADF controller card removal" on page 4-67**. Perform a print test using the ADF. Does the error continue?	Replace the system card assembly. Go to **"System card assembly removal" on page 4-50**.	Problem solved.

Network service check

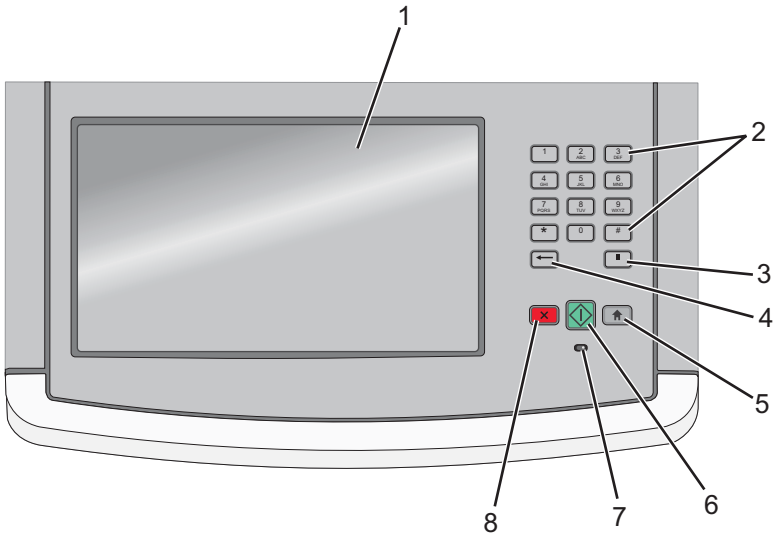
Note: Before starting this service check, print out the network setup page. This page is found under Menu - Reports - Network Settings. Consult the network administrator to verify that the physical and wireless network settings displayed on the network settings page for the device are properly configured. If a wireless network is used, verify that the printer is in range of the host computer or wireless access point, and there is no electronic interference. Have the network administrator verify that the device is using the correct SSID, and wireless security protocols. For more network troubleshooting information, consult the Dell Network Setup Guide.

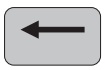
Step	Questions / actions	Yes	No
1	If the device is physically connected to the network, verify that the ethernet cable is properly connected on both ends. Is the cable properly connected?	Go to step 3. If the network is wireless, got to step 3.	Go to step 2.
2	Connect the ethernet cable. Did this fix the problem?	Problem resolved	Go to step 3.
3	Check the printer's online status under Printers and Faxes on the host computer. Delete all print jobs in the print queue. Is the printer online and in a **Ready** state.	Go to step 5.	Go to step 4.
4	Change the printer status to online. Did this fix the issue?	Problem resolved.	Go to step 5.
5	Does the IP address displayed on the network settings page match the IP address in the port of the drivers using the printer?	Go to step 10.	Go to step 6.
6	Does the LAN use DHCP? **Note:** A printer should use a static IP address on a network.	Go to step 7.	Go to step 9.
7	Are the first two segments if the IP address 169.254?	Go to step 8.	Go to step 9
8	POR the printer. Is the problem resolved	Problem resolved	Go to step 10.
9	Reset the address on the printer to match the IP address on the driver. Did this resolve the issue?	Problem fixed.	Go to step 10.
10	Have the network administrator verify that the printer and PC's IP address have identical subnet addresses. Are the subnet addresses the same?	Go to step 12.	Go to step 11.
11	Using the subnet address supplied by the network administrator, assign a unique IP address to the printer. **Note:** The printer IP address should match the IP address on the printer driver. Did this fix the problem?	Problem resolved.	Go to step 12.
12	Is the device physically connected (ethernet cable) to the network?	Go to step 13.	Go to step15.

Step	Questions / actions	Yes	No
13	Try using a different ethernet cable. Did this remedy the situation?	Problem resolved	Go to step 14.
14	Have the network administrator check the network drop for activity. Is the drop functioning properly?	Replace the controller board. Go to **"System card assembly removal" on page 4-50**.	Contact the network administrator.
15	Is the printer on the same wireless network as the other devices?	Go to step 17.	Go to step 16.
16	Assign the correct wireless network to the printer. Did this fix the problem?	Problem resolved	Go to step 17.
17	Are the other devices on the wireless network communicating properly?	Go to step 18.	Contact the network administrator.
18	Verify that the wireless card is properly seated on the controller board. Is the wireless card seated correctly?	Go to step 20.	Go to step 19.
19	Properly reseat the wireless card. Did this fix the problem?	Problem resolved.	Go to step 20.
20	Is the antenna damaged?	Go to step 22.	Go to step 21.
21	Replace the antenna. Did this fix the problem?	Problem resolved	Go to step 22.
22	Verify that the antenna is properly connected to the wireless card. Is it connected correctly?	Go to step 24.	Go to step 23.
23	Properly connect the antenna. Did this fix the problem?	Problem resolved	Go to step 24.
24	Check pin 6 for +3.3V, and Pin 5 for +5V. on connector <> of the controller board. Pins 1 and 4 are GND. Are the voltages and GNDs correct?	Replace the wireless card.	Replace the system card Go to **"System card assembly removal" on page 4-50**.

3. Diagnostic aids

Understanding the printer control panel

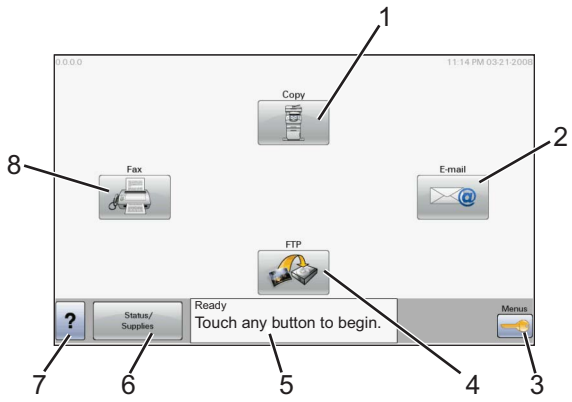


Item		Description
1	Display	View scanning, copying, faxing, and printing options as well as status and error messages.
2	Keypad	Enter numbers or symbols on the display.
3	Dial Pause	• Press ⏸ to cause a two- or three-second dial pause in a fax number. In the Fax To field, a Dial Pause is represented by a comma (,). • From the home screen, press ⏸ to redial a fax number. • The button functions only within the Fax menu or with fax functions. When outside of the Fax menu, fax function, or home screen, pressing ⏸ causes an error beep.
4	Back 	In the Copy menu, press ← to delete the right-most digit of the value in the Copy Count.The default value of 1 appears if the entire number is deleted by pressing ← numerous times. In the Fax Destination List, press ← to delete the right-most digit of a number entered manually. You can also press ← to delete an entire shortcut entry. Once an entire line is deleted, another press of ← causes the cursor to move up one line. In the E-mail Destination List, press ← to delete the character to the left of the cursor. If the character is in a shortcut, then the shortcut is deleted.

Item		Description
5	Home	Press to return to the home screen.
6	Start	• Press to initiate the current job indicated on the display. • From the home screen, press to start a copy job with the default settings. • If pressed while a job is scanning, the button has no effect.
7	Indicator light	Indicates the printer status: • Off—The power is off. • Blinking green—The printer is warming up, processing data, or printing. • Solid green—The printer is on, but idle. • Blinking red—Operator intervention is needed.
8	Stop	Stops all printer activity A list of options is offered once **Stopped** appears on the display.

Understanding the home screen

After the printer is turned on and a short warm-up period occurs, the display shows the following basic screen which is referred to as the home screen. Use the home screen buttons to initiate an action such as copying, faxing, or scanning; to open the menu screen; or to respond to messages.



Display item		Description
1	Copy	Opens the Copy menus **Note:** From the home screen, you can also access the Copy menus by pressing a number on the keypad.
2	E-mail	Opens the E-mail menu
3	Menus	Opens the menus These menus are available only when the printer is in the **Ready** state.

Display item		Description
4	FTP	Opens the File Transfer Protocol (FTP) menus **Note:** This function must be set up by your system support person. Once it is set up, it appears as a display item.
5	Status message bar	• Shows the current printer status such as **Ready** or **Busy**. • Shows printer conditions such as **Toner Low**. • Shows intervention messages to give instructions on what you should do so the printer can continue processing, such as **Close door** or **Insert print cartridge**.
6	Status/Supplies	Appears on the display whenever the printer status includes a message requiring intervention. Touch it to access the messages screen for more information on the message, including how to clear it.
7	Tips	All menus have a Tips button. Tips is a context-sensitive Help feature within the display touch screens.
8	Fax	Opens the Fax menus

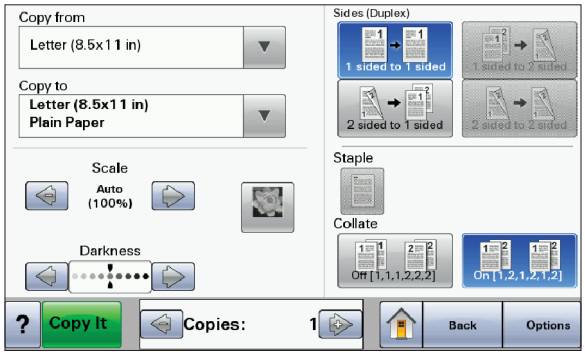
Other buttons that may appear on the home screen:

Display item	Description
Release Held Faxes	If this button is shown, then there are held faxes with a scheduled hold time previously set. To access the list of held faxes, touch this button.
Search Held Jobs	Searches on any of the following items and returns search results: • User names for held or confidential print jobs • Job names for held jobs, excluding confidential print jobs • Profile names • Bookmark container or job names • USB container or job names for supported extensions only
Held Jobs	Opens a screen containing all the held jobs
Lock Device	This button appears on the screen when the printer is unlocked and Device Lock-out Personal Identification Number (PIN) has been set. Touching this button opens a PIN entry screen. Entering the correct PIN locks the printer control panel (touch screen and hard buttons).
Unlock Device	This button appears on the screen when the printer is locked. The printer control panel buttons and shortcuts cannot be used while it appears. Touching this button opens a PIN entry screen. Entering the correct PIN unlocks the printer control panel (touch screen and hard buttons).
Cancel Jobs	Opens the Cancel Jobs screen. The Cancel Jobs screen shows three headings: Print, Fax, and Network. The following items are available under the Print, Fax, and Network headings: • Print job • Copy job • Fax profile • FTP • E-mail send Each heading has a list of jobs shown in a column under it which can show only three jobs per screen. Each job appears as a button which you can touch to access information about the job. If more than three jobs exist in a column, then an arrow appears enabling you to scroll through the jobs.

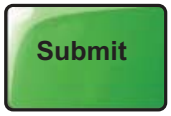
Using the touch-screen buttons

Note: Depending on your options and administrative setup, your screens and buttons may vary from those shown.

Sample touch screen

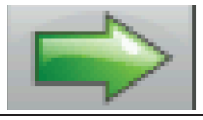


Button	Function
Home	Returns to the home screen
Scroll down	Opens a drop-down list
Left scroll decrease	Scrolls to another value in decreasing order
Right scroll increase	Scrolls to another value in increasing order
Left arrow	Scrolls left

Button	Function
Right arrow	Scrolls right
Submit 	Saves a value as the new user default setting
Back	Navigates back to the previous screen

Other touch-screen buttons

Button	Function
Down arrow	Moves down to the next screen
Up arrow	Moves up to the next screen
Unselected radio button	This is an unselected radio button. The radio button is gray to show it is unselected.
Selected radio button	This is a selected radio button. The radio button is blue to show it is selected.

Button	Function
Cancel Jobs 	Opens the Cancel Jobs screen. The Cancel Jobs screen shows three headings: Print, Fax, and Network. The following items are available under the Print, Fax, and Network headings: • Print job • Copy job • Fax profile • FTP • E-mail send Each heading has a list of jobs shown in a column under it which can show only three jobs per screen. Each job appears as a button which you can touch to access information about the job. If more than three jobs exist in a column, then an arrow appears enabling you to scroll through the jobs.
Continue 	Touch this button when more changes need to be made for a job or after clearing a paper jam.
Cancel 	• Cancels an action or a selection • Cancels out of a screen and returns to the previous screen
Select 	Selects a menu or menu item

This chapter explains the tests and procedures to identify printer failures and verify repairs have corrected the problem.

Accessing service menus

There are different test menus that can be accessed during POR to identify problems with the printer.

Diagnostics Menu 	1. Turn off the printer. 2. Press and hold the **3** and **6** buttons simultaneously for about 10 seconds. 3. Turn on the printer. 4. Release the buttons after 10 seconds.	The Diagnostics Menu group consists of menus, settings, and operations that are used to diagnose various printer problems. **Note:** While the Diagnostics menu group is active, all host interfaces are offline. See **"Diagnostics Menu" on page 3-8** for more information.
Configuration Menu 	1. Turn off the printer. 2. Press and hold the **2** and **6** buttons simultaneously for about 10 seconds. 3. Turn on the printer. 4. Release the buttons after 10 seconds.	The Configuration Menu group contains a set of menus, settings, and operations which are infrequently required by a user. Generally, the options made available in this menu group are used to configure a printer for operation. See **"Configuration menu (CONFIG MENU)" on page 3-28** for more information.

Diagnostics Menu

Entering Diagnostics Menu

1. Turn off the printer.
2. Press and hold **3** and **6** buttons simultaneously.
3. Turn on the printer.
4. Release the buttons after 10 seconds.

Available tests

The tests display on the operator panel in the order shown:

Note: Some menus are not available, depending on the configuration of the printer.

Diagnostics Menu tests

REGISTRATION	See **"Registration (printer)" on page 3-11**
Top Margin	
Bottom Margin	
Left Margin	
Right Margin	
Quick Test	See **"Quick Test" on page 3-12**
PRINT TESTS	
Tray 1	See **"Input source tests" on page 3-13**
Tray 2 (if installed)	
Tray 3 (if installed)	
Tray 4 (if installed)	
Tray 5 (if installed)	
MP Feeder	
Envelopes - MP Feeder (if installed)	
Printing Print Quality Pages	See **"Printing Quality Pages" on page 3-13**
HARDWARE TESTS	
Panel Test	See **"Panel Test" on page 3-14**
Button Test	See **"Button Test" on page 3-14**
DRAM Test	See **"DRAM Test" on page 3-15**
USB HS Test Mode	

Diagnostics Menu tests (Continued)

DUPLEX TESTS (if installed)	
Quick Test	See **"Quick Test (duplex)" on page 3-16**
Top Margin	See **"Top Margin (duplex)" on page 3-17**
Sensor Test	See **"Sensor Test (duplex)" on page 3-17**
Motor Test	See **"Motor Test (duplex)" on page 3-17**
Duplex Feed 1	See **"Duplex Feed 1" on page 3-18**
Duplex Feed 2	See **"Duplex Feed 2" on page 3-18**
INPUT TRAY TESTS	
Feed Tests	See **"Feed Tests (input tray)" on page 3-19**
Tray 1	
Tray 2 (if installed)	
Tray 3 (if installed)	
Tray 4 (if installed)	
Tray 5 (if installed)	
Envelope Feeder	
MP Feeder	
Sensor Tests	See **"Sensor Test (input tray)" on page 3-19**
Tray 1	
Tray 2 (if installed)	
Tray 3 (if installed)	
Tray 4 (if installed)	
Tray 5 (if installed)	
Envelope Feeder	
MP Feeder	
OUTPUT BIN TESTS	See **"OUTPUT BIN TESTS" on page 3-20**
Feed Tests	
Standard Bin	
Sensor Tests	
Standard Bin	
BASE SENSOR TEST	See **"BASE SENSOR TEST" on page 3-20**
Toner Sensor	
Input Sensor	
Output Sensor	
NarrowMedia	
Front Door	
DEVICE TESTS	
Quick Disk Test	See **"Quick Disk Test" on page 3-21**
Disk Test/Clean	See **"Disk Test/Clean" on page 3-21**

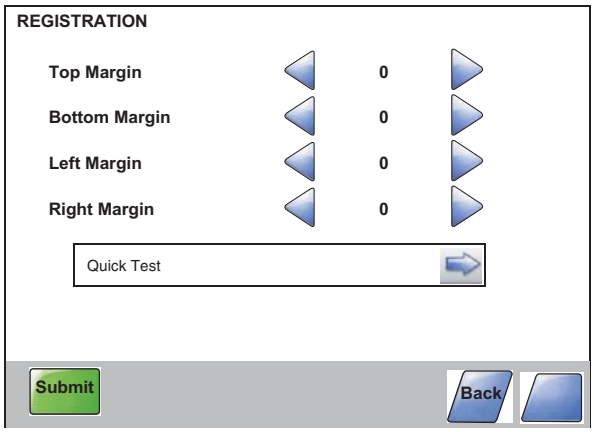
Diagnostics Menu tests (Continued)

PRINTER SETUP	
Defaults	See **"Defaults" on page 3-22**
Printed Page Count	See **"Printed Page Count" on page 3-22**
Perm Page Count	See **"Permanent Page Count" on page 3-22**
Serial Number	See **"Serial Number" on page 3-22**
Envelope Enhance	See **"Engine Settings 1 through 16" on page 3-22**
Engine Settings 1 through 16	See **"Engine Settings 1 through 16" on page 3-22**
Model Name	See **"Model Name" on page 3-22**
Configuration ID	See **"Configuration ID" on page 3-23**
Edge To Edge	See **"Edge to Edge" on page 3-23**
Enable Edge to Edge Copy	See **"Enable Edge to Edge Copy" on page 3-23**
EP SETUP	
EP Defaults	See **"EP Defaults" on page 3-24**
Fuser Temp	See **"Fuser Temperature (Fuser Temp)" on page 3-24**
Fuser Page Count	See **"Fuser Page Count" on page 3-24**
Warm Up Time	See **"Warm Up Time" on page 3-24**
Transfer	See **"Transfer" on page 3-25**
Print Contrast	See **"Print Contrast" on page 3-25**
Charge Roll	See **"Charge Roll" on page 3-25**
Gap Adjust	See **"Gap Adjust" on page 3-25**
Auto Dark Adjust	See **"Auto Dark Adjust" on page 3-25**
REPORTS	
Menu Settings Page	See **"Menu Settings Page" on page 3-25**
EVENT LOG	
Display Log	See **"Display Log" on page 3-25**
Print Log	See **"Print Log" on page 3-26**
Clear Log	See **"Clear Log" on page 3-26**
SCANNER TESTS	
Back Side Scan Uniformity	See **"Back Side Scan Uniformity" on page 3-27**
ASIC Test	See **"Back Side Scan Uniformity" on page 3-27**
Feed test	See **"Feed Test" on page 3-27**
Sensor Tests	See **"Sensor Tests" on page 3-27**

Touch **Exit Diag Menu** to exit the Diagnostics Menu, and `Resetting the Printer` displays. The printer performs a POR, and the printer returns to ready mode.

Registration (printer)

Print registration makes sure the printing is properly aligned on the page.



The settings available are:

Description	Value	Direction of change
Top Margin	-25 to +25 Each increment causes approximately 4 pels shift (at 600 dpi).	A positive change moves the image down the page and increases the top margin. A negative change moves the image up and decreases the top margin.
Bottom Margin	-20 to +20 Each increment causes approximately 0.55 mm shift in the bottom margin.	A positive change compresses the image so it appears to move down the page, and a negative change moves the image up.
Left Margin	-25 to +25	A positive change moves the image right, and a negative change moves the image left. No compression occurs.
Right Margin	-10 to +10	A positive change moves the image right, and a negative change moves the image left.

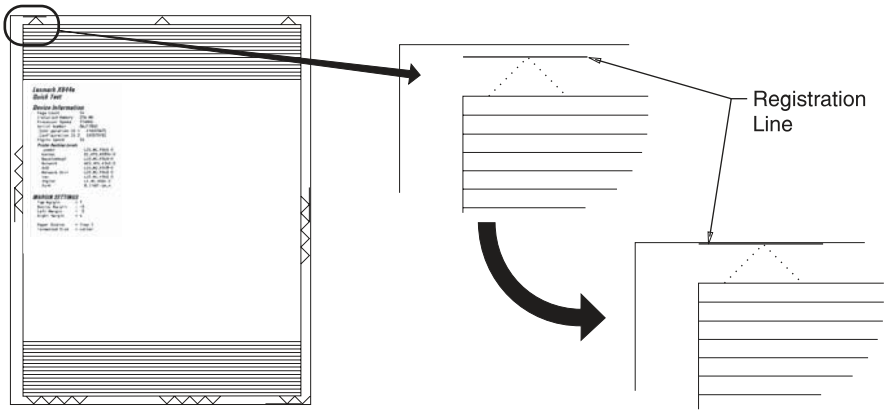
To set print registration:

1. Print the Quick Test page.

   a. Touch **REGISTRATION** from the Diagnostics Menu.

   b. Touch ⇨ to select Quick Test. You may need to scroll to the next page.

   Retain this page to determine the changes you need to make to the margins settings. The diamonds in the margins should touch the margins of the page.



2. To change the value of any of the margin settings:

- Touch ⇨ to the right of the appropriate margin setting. The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ in a menu below the header row.
- Touch ◀ to decrease the value or ▶ to increase the value.
- Touch **Submit** to save the change, or Touch **Back** to cancel and return to the Diagnostics Menu.
- Touch **Submit** to save all changed values.

  The device prints a Quick Test page from the appropriate paper tray. While the Quick Test page prints, **`Printing Alignment Page`** appears on the LCD.

Quick Test

The Quick Test contains the following information:

- Device information
- Printer margin settings
- Scanner margin settings
- Alignment diamonds at the top, bottom, and each side.
- Horizontal lines for skew adjustment
- General printer information, including current page count, installed memory, processor speed, serial number, Engine ID, and system card ID.

To print the Quick Test page:

Note: Print the Quick Test Page on letter or A4 paper.

1. Touch **REGISTRATION** from the Diagnostics Menu.
2. Touch ⇨ to select Quick Test.

   The message **`Quick Test Printing...`** appears on the display.

   Once the Quick Test Page completes printing, the Registration screen displays again.
3. Touch **Back** to return to the Diagnostics Menu.

PRINT TESTS

Selections on the screen vary since only installed input sources are listed, followed by Printing Quality Test Pages.

Input source tests

The purpose of the diagnostic Print Tests is to verify that the printer can print on media from each of the installed input options. The contents of the Print Test Page varies depending on the media installed in the selected input source.

Check each Test Page from each source to assist in print quality and paper feed problems.

To run the Print Test Page:

1. Select **PRINT TESTS** from the Diagnostics menu.
2. Select the media source to test:
   Tray 1
   Tray 2 (if installed)
   Tray 3 (if installed)
   Tray 4 (if installed)
   Tray 5 (if installed)
   MP Feeder (if installed)
   Envelope Feeder (if installed)
3. Select **Single** or **Continuous**.

- If **Single** is selected, a single page is printed.
- If **Continuous** is selected, printing continues until **Stop** is pressed to cancel the test.

  If a source is selected that contains envelopes, an envelope test pattern is printed. If Continuous is selected, the test pattern is printed only on the first envelope.

  Note: The Print Test Page always prints on one side of the paper, regardless of the duplex setting or the presence of a duplex option.

Touch **Back** to return to PRINT TESTS.

Printing Quality Pages

The purpose of this diagnostic function is to allow printing of the print quality test pages with the toner cartridge lockout function disabled. The print quality pages consist of four pages. Page one contains a mixture of graphics and text. Page two is gray with two one-inch black squares located on the bottom right. Page three is a solid black page and page four is blank. If duplex is turned on, the pages are duplexed. The Print Quality Test pages are printed in English and must always be printed on letter, legal, or A4 paper.

To run the Print Quality Test Pages, touch ⇨ beside Printing Quality Test Pages from PRINT TESTS. The message **`Printing Quality Test Pages`** is displayed.

Note: The print quality test pages can also be printed from the Configuration menu (CONFIG MENU), however, a cartridge must be installed with a machine class ID matching the machine class ID stored in NVRAM. Additional diagnostic information may be printed on the pages when printing from DIAGNOSTICS.

The following is included in the DIAGNOSTICS version of the print quality pages:

- Values from EP SETUP in DIAGNOSTICS, including:
  Fuser temperature, warm-up time, transfer, print contrast, charge roll settings and gap adjust.
- Contents of the EVENT LOG from DIAGNOSTICS.
- Configuration information, including printer serial number, controller code level, engine code level, operator panel code level, font versions, and cartridge information.
- Default values for the QUALITY MENU settings used to print the pages.

HARDWARE TESTS

Select the following Hardware Tests from this menu:

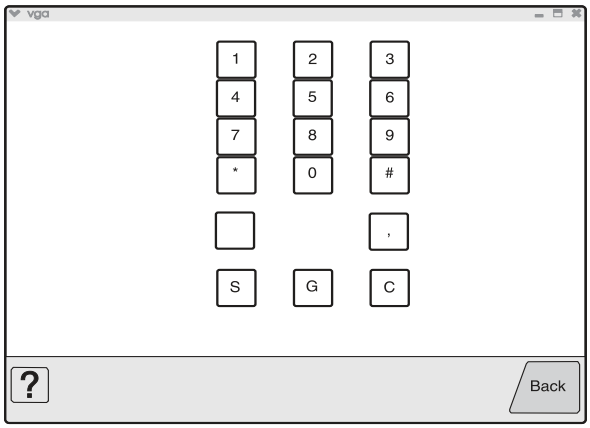
- Panel Test
- Button Test
- DRAM Test
- USB HS Test Mode

Panel Test

This test automatically toggles each pixel of the touchscreen through every contrast level beginning with the darkest and on to the brightest. This test continues until you press **Stop** .

Button Test

The Button Test verifies the operation of the buttons on the operator panel. When you select Button Test, a diagram of the operator panel appears on the panel. When you press a button on the operator panel, the corresponding touchscreen key is emphasized. Touch **Back** to cancel the test.



DRAM Test

The purpose of this test is to check the validity of DRAM memory, both standard and optional. The test writes patterns of data to DRAM to verify that each bit in memory can be set and read correctly.

To run the DRAM Test:

1. Touch ⇨ to select DRAM Test from the menu.
   The message **`DRAM Test Testing...`** displays. Then the message **`Resetting Printer`** appears, and the power indicator light *blinks* red.
2. Turn the printer off and on. While the DRAM test executes, the power indicator *blinks* green.
   The following type of message appears:

   ```
   DRAM Test <###      P:######      F:####
   ```

- xxx represents the installed DRAM size.
- P:###### represents the number of times the memory test has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.
- F:##### represents the number of times the memory test has failed and finished with errors. Initially 0000 displays with the maximum fail count being 99,999. Initially only four digits appear, but additional digits appear as needed.
  Each time a test is completed, the number of pass and failures increments. If the test fails, the message **`Failure`** displays for approximately three seconds, and the failure count increases by one.

The test continues until all standard and optional DRAM is tested. Once the maximum pass count or fail count is reached, the test is stopped, the power indicator is turned on solid, and the final results display.

To stop the test before completion, turn the MFP off.

CACHE Test

This test is used to verify the printer processor cache.

To run the CACHE Test:

1. Touch ⇨ to select **CACHE TEST** from HARDWARE TESTS.
   The message **`CACHE Test Testing...`** displays. Then the message **`Resetting Printer`** appears.
2. The printer automatically performs a Power On Reset (POR). While the CACHE test executes, the power indicator *blinks* green.
   The following type of message appears:

   ```
   CACHE Test <###      P:######      F:####
   ```

- P:###### represents the number of times the cache has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.
- F:##### represents the number of times the cache has failed and finished with errors. Initially 0000 displays with the maximum fail count being 99,999. Initially only four digits appear, but additional digits appear as needed.
  Each time a test is completed, the number of passes and failures increments. If the test fails, the message **`Failure`** displays for approximately three seconds, and the failure count increases by one.

The test continues until all of the printer processor's cache has been tested. Once the maximum pass count or fail count is reached, the test is stopped, the power indicator is turned on solid, and the final results display.

To stop this test before completion, turn the MFP off.

USB HS Test Mode

1. Select **USB HS Test Mode** from HARDWARE TESTS.
2. Press ▼ until the ✔ appears next to the Port to be tested, and then press ✓.
3. Select the desired Test, and then press ✓.

Port	Test	Appears on the display
Port 0	Test J Test K Test SEO NAK Test Packet Test Force Enabled	`USB High Speed Certification Testing...`
Port 1	Test J Test K Test SEO NAK Test Packet Test Force Enabled	`USB High Speed Certification Testing...`
Port 2	Test J Test K Test SEO NAK Test Packet Test Force Enabled	`USB High Speed Certification Testing...`
Port 3	Test J Test K Test SEO NAK Test Packet Test Force Enabled	`USB High Speed Certification Testing...`

To stop testing before completion, turn the printer off.

DUPLEX TESTS

Quick Test (duplex)

This test prints a duplex version of the Quick Test that can be used to verify that the correct placement of the top margin on the back side of a duplex page. You can run one duplexed page (**Single**), or continue printing duplexed pages (**Continuous**) until **Stop** is pressed. For information about changing the margin, see **"Top Margin (duplex)" on page 3-17**.

Note: Before you set the duplex top margin, be sure to set the registration. See **"Registration (printer)" on page 3-11**.

The paper you choose to print the page on should be either Letter or A4.

To run the Quick Test (duplex):

1. Touch ⇨ to select **Quick Test** from DUPLEX TESTS.
2. Touch ⇨ to select **Single** or **Continuous**.

- The single Duplex Quick test cannot be canceled.
- The printer attempts to print the Quick Test Page from the default paper source. If the default paper source only supports envelopes, then the page is printed from Tray 1.
- Check the Quick Test Page for the correct offset between the placement of the first scan line on the front and back side of a duplexed sheet.

The single test stops automatically when a single duplex sheet is printed, and the continuous test continues until you press **Stop**.

Top Margin (duplex)

This setting controls the offset between the first scan line on the front of the duplex page and the first scan line on the back of the page. Therefore, be sure to set the top margin in REGISTRATION before setting the duplex top margin. See **"Registration (printer)" on page 3-11**.

To set the Top Margin (duplex):

1. Print the Quick Test (duplex):
   a. Touch ⇨ to select **Quick Test** from DUPLEX TESTS.
   b. Select **Single**.
   c. Hold the page to the light to see the whether the top margin of the backside aligns with the top margin of the front side.
2. Select **Top Margin** from DUPLEX TESTS.
3. Use the arrows to increase or decrease the current setting displayed on the touchscreen to select the margin setting:
   ◀ [*setting's current value*] ▶.

- Each increment shifts the duplex top margin by 1/100 of an inch.
- The Top Margin (duplex) range is -25 to +25, and the default value is 0.
- An increase moves the top margin down and widens the top margin. A decrease moves the top margin upward and narrows the top margin.

4. Touch **Submit**.
5. Print the Quick Test (duplex) again to verify the adjustment. Repeat if necessary.

Sensor Test (duplex)

This test is used to determine whether or not the duplex sensors and switches are working correctly. The test allows you to actuate the duplex input sensor located in the back part of the duplex unit and the duplex exit sensor located in the return paper path.

1. Select **Sensor Test** from DUPLEX TESTS.
   The message **`Sensor Test Testing`** displays.
2. Manually actuate each of the duplex sensors. When the sensor/switch is closed, **`CL`** (closed) displays, and when the sensor/switch is open, **`OP`** (open) displays.

- Duplex input sensor
- Duplex exit sensor

3. Press **Stop** to exit the test.

Motor Test (duplex)

This test lets you test the duplex option paper feed drive system, and verify that the power and velocity values are acceptable. The duplex runs the DC motor at high speed and low speed, taking an average of the power (PWM) required for each speed and calculating the KE value.

To run the Motor Test (duplex):

1. Select **Motor Test** from DUPLEX TESTS.
   The power indicator light *blinks,* and the message **`Motor Test Testing`** displays.
2. When the motor stops, the results are displayed. Listed below is an example of such results:

```
Duplex Motor Test Test Passed
Avg. PWM of High-Speed Test: 1d
Avg. PWM of Low-Speed Test: 0e
Max. PWM of Low-Speed Test: 00
Min. PWM of Low-Speed Test: 0b
Motor KE Value: 2d
Motor Test Results: 00
```

3. Touch **Back** or press **Stop** to exit the test.

Duplex Feed 1

This test feeds a blank sheet of paper to the duplex paper stop position 1. This test can be run using any of the supported paper sizes.

To run the Duplex Feed 1 Test:

1. Touch ⇨ to select **Duplex Feed 1** from DUPLEX TESTS.
   The power indicator blinks while the paper is feeding, and the message **`Duplex Feed 1 Feeding`**… displays.
   The message **`Duplex Feed 1 Clear Paper`** displays when the paper reaches paper stop position 1, and the power indicator turns on solid.
2. Remove the media from the duplex unit, and clear the message on the operator panel by pressing **Stop** .

Duplex Feed 2

This test feeds a blank sheet of paper to the duplex paper stop position 2. This test can be run using any of the supported paper sizes.

To run the Duplex Feed 2 Test:

1. Touch ⇨ to select **Duplex Feed 2** from DUPLEX TESTS.
   The power indicator blinks while the paper is feeding, and the message **`Duplex Feed 2 Feeding`**… displays.
   The message **`Duplex Feed 2 Clear Paper`** displays when the paper reaches the duplex paper stop position 2, and the power indicator turns on solid.
2. Remove the media from the duplex unit, and clear the message on the operator panel by touching **Back** or pressing **Stop** .

INPUT TRAY TESTS

Feed Tests (input tray)

This test lets the servicer observe the paper path as media is feeding through the printer. A blank sheet of paper feeds through the printer as the laser turns off during this test. The only way to observe the paper path is to open the lower front door that is used to access the envelope or multipurpose feeder. The paper is placed in the output bin.

To run the Input Tray Feed Tests:

1. Touch ⇨ to select **Feed Tests** from INPUT TRAY TESTS.
2. Touch ⇨ to select the input source from the sources displayed on the Feed Tests menu. All installed sources are listed.
3. Touch ⇨ to select either Single or Continuous.

- **Single**—feeds one sheet of media from the selected source.
- **Continuous—**media continues feeding from the selected source until **Stop** is pressed.

Sensor Test (input tray)

This test is used to determine if the input tray sensors are working correctly. To run the Input Tray Sensor Test:

1. Touch ⇨ to select the **Sensor Test** from INPUT TRAY TESTS.
2. Touch ⇨ to select the input source from the sources displayed on the Sensor Test menu. All installed sources are listed.
3. Select the sensor to test. Various sources have different combinations of sensors. See the table below:

Tray sensor support by source

Source	Empty (Input tray empty sensor)	Low (Input tray paper low sensor)	passThru (Input tray pass thru sensor)
Tray 1	X	X	
Tray 2	X	X	X
Tray 3	X	X	X
Tray 4	X	X	X
Tray 5	X	X	X
Multipurpose tray	X		
Envelope feeder	X		

[*sensor selected*]=`Open` displays.

- Empty—Input tray empty sensor
- Low—Input tray paper low sensor
- passThru—Input tray pass thru sensor

4. Once this message displays, the servicer can manually actuate each sensor. The tray empty sensor can be actuated by hand, however a sheet of paper can be used to cover the pass thru sensor. When the sensor is closed, `Closed` displays; when the sensor is open, `Open` displays.
5. Press **Stop** to exit the test.

OUTPUT BIN TESTS

Feed Tests (output bins)

Use these tests to verify that media can be fed to the standard output bin. No information is printed on the media fed to the output bin, because the printhead is not engaged during this test. These tests can use any media size or envelope supported by the printer.

To run the Feed Tests for the output bins:

1. Touch ⇨ to select **Feed Tests** from the OUTPUT BIN TESTS.
2. Touch ⇨ to select the output bin you want the paper to exit into.
3. Touch ⇨ to select either Single or Continuous.

- **Single**—feeds one sheet of media from the selected source.
- **Continuous**—media continues feeding from the selected source until **Stop** is pressed.

Touch **Back** to return to OUTPUT BIN TESTS.

Sensor Test (standard output bin)

This test is used to verify if the standard bin sensor is working correctly.

To run the Sensor Test for the standard bin:

1. Touch ⇨ to select **Sensor Test** from OUTPUT BIN TESTS.
2. Touch ⇨ to select **Standard Bin** from Sensor Tests.
3. Manually actuate the bin sensor by moving the flag in and out of the sensor, and the display changes. The following screen is displayed:
   `Bin Empty: empty` or **`Bin Empty: full.`**
4. Press **Stop** to exit the test.

BASE SENSOR TEST

This test is used to determine if the sensors located inside the printer are working correctly.

To run the Base Sensor Test:

1. Select **BASE SENSOR TEST** from the DIAGNOSTICS menu.
   The following sensors are listed:
   - Toner Level—Toner level sensor (remove the cartridge and replace to actuate the sensor)
   - Input—Input sensor
   - Output—Output (exit) sensor
   - NarrowMedia—Output (exit) sensor
   - Front Door—Front door sensor
2. Manually actuate the sensors to verify that each sensor switches from **`Open`** to **`Closed`**.
3. Press **Stop** to exit the test.

DEVICE TESTS

Quick Disk Test

This test performs a non-destructive read/write on one block per track on the disk. The test reads one block on each track, saves the data, and proceeds to write and read four test patterns to the bytes in the block. If the block is good, the saved data is written back to the disk.

To run the Quick Disk Test:

1. Touch ⇨ to select **Quick Disk Test** from DEVICE TESTS.
   The power indicator blinks while the test is in progress, and quick **`Disk Test Testing`**… displays.

- **`Quick Disk Test/Test Passed`** message displays if the test passes, and the power indicator turns on solid.
- **`Quick Disk Test/Test Failed`** message displays if the test failed, and the power indicator turns on solid.

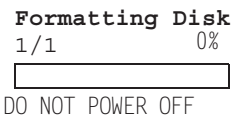
2. Press **Stop** to return to the Device Tests menu.

Disk Test/Clean

Warning: This test destroys all data on the disk and should not be attempted on a good disk. Also note that this test may run approximately 1½ hours depending on the disk size.

To run the Disk Test/Clean Test:

1. Touch ⇨ to select **Disk Test/Clean** from the Device Tests menu.
   `Contents will be lost. Continue?` message displays to warn the user that all contents on the disk will be lost.
2. Touch **Yes** to continue and **No** to exit.
   If **Yes** is selected, the following screen displays and updates periodically, indicating the percentage of test completed.

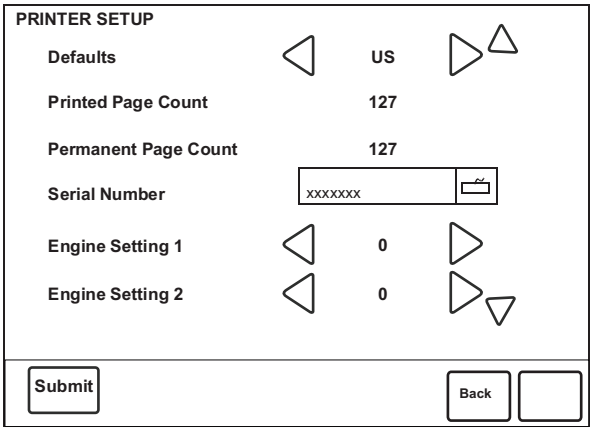


   The power indicator blinks during the test.

   Note: The test can NOT be canceled.

3. Once the test is complete, the power indicator turns on solid, and either the message **`Disk Test/Clean Test Passed`** or **`Disk Test/Clean Failed`** appears. If the message indicates failure, the disk is unusable.

PRINTER SETUP



The triangles pointing up or down indicate whether there are additional menus. Touch the up or down arrows to display these additional menus.

Note: If you make changes, touch **Submit** to make the change effective.

Defaults

US/Non-US defaults changes whether the printer uses the US factory defaults or the non-US factory defaults. The settings affected include paper size, envelope size, PCL symbol set, code pages, and units of measure.

Warning: Changing this setting resets the printer to factory defaults, and data may be lost. It cannot be undone.

Printed Page Count

The page count can only be viewed and cannot be changed.

Touch **Back** to return to Diagnostics Menu.

Permanent Page Count

The permanent page count can only be viewed and cannot be changed.

Touch **Back** to return to Diagnostics Menu.

Serial Number

The serial number can only be viewed and cannot be changed.

Touch **Back** to return to Diagnostics Menu.

Engine Settings 1 through 16

Warning: Do not change these settings unless requested to do so by your next level of support.

Model Name

The model name can only be viewed and cannot be changed.

Configuration ID

The two configuration IDs are used to communicate information about certain areas of the printer that cannot be determined using hardware sensors. The configuration IDs are originally set at the factory when the printer is manufactured, however, the servicer may need to reset Configuration ID 1 or Configuration ID 2 whenever you replace the system board. The IDs consist of eight hexadecimal characters, including 0 through 9 and A through F.

Note: When the printer detects a Configuration ID that is not defined or invalid, the following occurs:

- The default standard model Configuration ID is used instead.
- Configuration ID is the only function available in DIAGNOSTICS.
- Unless the menu is in DIAGNOSTICS, **`Check Config ID`** displays.

To set the configuration ID:

1. Touch ⇨ to select **PRINTER SETUP** from the Diagnostics Menu.
2. Touch ⇨ to select **Configuration ID**.
3. Touch the keyboard icon to display a keyboard with 1 through 0 and a through f. The current values for Configuration ID 1 and Configuration ID 2 are displayed.

- Use keys to type the numbers for the two configuration IDs.
- Use the left arrow to move over a digit from the right of the number toward the left.
- When the numbers are correct, touch **Submit**.
- If you have a question, touch the question mark icon.
- To exit without changing the numbers, touch **Back**.

  Note: Be sure to touch **Submit**, or the number will not be changed.

  `Submitting Selection` displays, followed by the value for Configuration ID 1.

  Note: If **`Invalid ID`** appears, the entry is discarded, and the previous Configuration ID 1 is displayed on the screen.

  If the process is successful, **`Submitting Selection`** appears on the display, followed by the current value for Configuration ID 2.

4. Restart the printer.

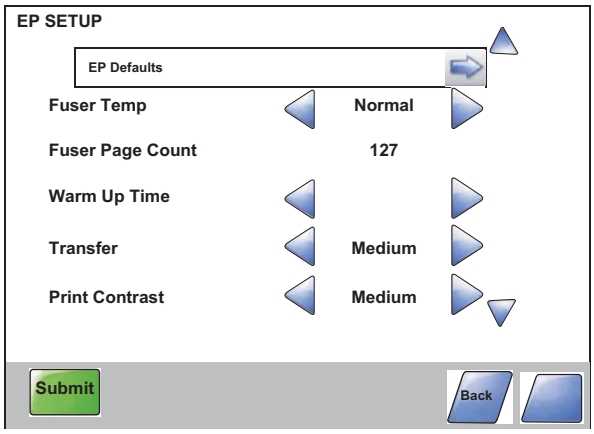
Edge to Edge

When this setting is On, the text and graphics are shifted to the physical edges of the paper for all margins. When the setting is Off, the normal margins are restored.

Enable Edge to Edge Copy

The settings are ON and OFF.

EP SETUP



The triangles pointing up or down indicate whether there are additional menus. Touch the up or down arrows to display these additional menus.

Note: If you make changes, touch **Submit** to make the change effective.

EP Defaults

This setting is used to restore each printer setting listed in EP SETUP to its factory default value. Sometimes this is used to help correct print quality problems.

To restore EP Defaults:

1. Touch ⇨ to select **EP Defaults** from EP SETUP.
2. Touch ⇨ to select **Restore** to reset the values to the factory settings, and touch ⇨ to select **Do Not Restore** to exit without changing the settings.

Touch **Back** to exit without changing the settings.

Fuser Temperature (Fuser Temp)

This adjustment can be used to help solve some customer problems with paper curl on low-grade papers and problems with letterheads on some types of media.

The fuser temperature can be adjusted to: Normal, Lower, Lowest. The default is Normal.

Touch **Back** to return to Diagnostics Menu.

Fuser Page Count

The fuser page count can only be viewed and cannot be changed.

Touch **Back** to return to Diagnostics Menu.

Warm Up Time

You can change the amount of time the printer warms up before allowing pages to print by changing this setting from 0 to 5. The factory sets the warm up at 0 or no warm up time. This time period lets the backup roll heat up and helps reduce curl in some environments.

Touch **Back** to return to Diagnostics Menu.

Transfer

The transfer can be adjusted to Low, Medium, or High. The default setting is Medium.

Touch **Back** to return to Diagnostics Menu.

Print Contrast

The print contrast setting controls the developer voltage offset.

The print contrast can be adjusted to Low, Medium, or High. The default setting is Medium.

Touch **Back** to return to Diagnostics Menu.

Charge Roll

The charge roll can be adjusted to Low, Medium, or High. The default setting is Medium.

Touch **Back** to return to Diagnostics Menu.

Gap Adjust

The setting adjusts the minimum gap between sheets. Increasing this value may reduce curl of some printed media and eliminate some output bin stacking problems. However, increasing this value also results in slower overall performance, measured in pages per minute. The range of values is 0 to 255, and the default value is 0.

Touch **Back** to return to Diagnostics Menu.

Auto Dark Adjust

The settings are Enable and Disable.

REPORTS

Menu Settings Page

This enables you to print the Menu Settings Page. The report prints the Diag Menu to include Registration, Print Tests, Hardware Tests, Duplex Tests, Input Tray Tests, Output Bin Tests, Device Tests, Printer Setup, EP Setup, Reports, Event Log, Development Menu, and Scanner Tests.

EVENT LOG

Display Log

The event log provides a history of printer errors. It contains the 12 most recent errors that have occurred on the printer. The most recent error displays in position 1, and the oldest error displays in position 12 (if 12 errors have occurred). If an error occurs after the log is full, the oldest error is discarded. Identical errors in consecutive positions in the log are entered, so there may be repetitions. All 2*xx* and 9*xx* error messages are stored in the event log.

To view the event log:

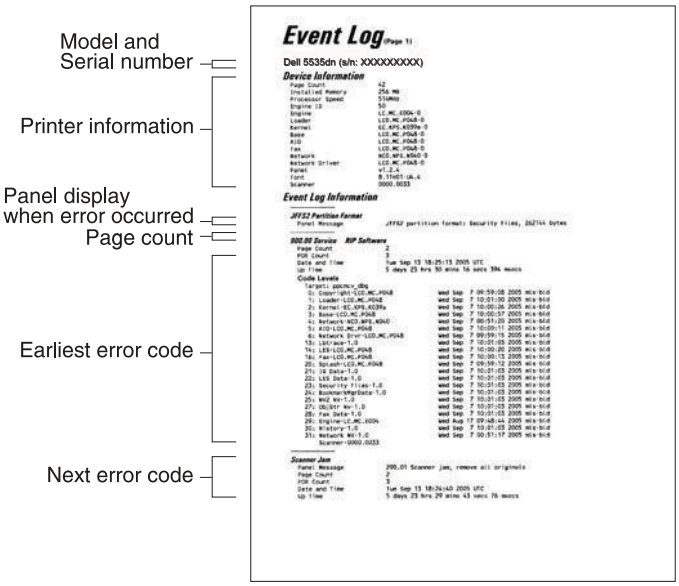
1. Touch ⇨ to select **Display Log** from EVENT LOG.
   Up to three error codes display at a time. Touch ⇨ to display additional information, if available.
2. Touch **Back** to return to the EVENT LOG menu.

Print Log

Additional diagnostic information is available when you print the event log from Diagnostics Menu rather than Configuration Menu.

The Event Log printed from Diagnostics Menu includes:

- Detailed printer information, including code versions
- Time and date stamps
- Page counts for most errors
- Additional debug information in some cases



The printed event log can be faxed to Dell or your next level of support for verification or diagnosis.

To print the event log:

Touch ⇨ to select **Print Log** from EVENT LOG.

Clear Log

Use Clear Log to remove the current information in the Event Log. This affects both the viewed log and the printed log information.

1. Touch ⇨ to select **Clear Log** from the Event Log menu.
2. Touch ⇨ to select **Yes** to clear the Event Log, or touch ⇨ to select **NO** to exit the Clear Log menu. If **YES** is selected, `Deleting EVENT LOG` displays on the screen.

SCANNER TESTS

Back Side Scan Uniformity

This procedure should be run after the ADF has been replaced. Before proceeding, make sure that the scanner glass and backing material are clean.

ASIC Test

A pattern appears and **`ASIC Test Passed`** displays. If xxxxxx displays, the test was unsuccessful.

Press **Stop** to return to the SCANNER TESTS menu.

Feed Test

To run the Scanner Feed test:

1. Touch ⇨ to select Feed Test from the SCANNER TESTS menu.
2. The panel displays the setting's current value◀ [*setting's current value*] ▶. Use the arrows to select from Letter, Legal, or A4.
3. Touch **START** to begin.
   `Running Flatbed`… displays.
   Press **4** to exit the test.
4. Touch **Back** to return to the Diagnostics Menu.

Sensor Tests

The following tests are available:

Sensor (ADF document set)
Sensor (ADF closed interlock)
Sensor (FB scanner HP)
Sensor (ADF sheet through)
Sensor (ADF top door interlock)
Sensor (ADF media exit sensor)
Sensor (ADF lower door interlock)
Sensor (ADF 1st scan)
Sensor (ADF 2nd scan)
Sensor (FB length 1)
Sensor (FB length 2)
Sensor (FB length 3)
Sensor (ADF long media)
Sensor (ADF Width 1)
Sensor (ADF Width 2)
Sensor (ADF Width 3)
Sensor (ADF Width 4)

Configuration menu (CONFIG MENU)

Entering Configuration Menu

1. Turn off the printer.
2. Press and hold **2** and **6** buttons simultaneously.
3. Turn on the printer.
4. Release the buttons after 10 seconds.

Available menus

Note: Some menus are not available, depending on the configuration of the printer.

Maintenance Counter Value	See **"Maintenance Counter Value" on page 3-29**
Reset Maintenance Counter	See **"Reset Maintenance Counter" on page 3-29**
USB Scan to Local	See **"USB Scan to Local" on page 3-30**
Print Quality Pages	See **"USB Scan to Local" on page 3-30**
Reports • Menu Settings Page • Event Log	See **"Reports" on page 3-31**
SIZE SENSING	See **"SIZE SENSING" on page 3-31**
Panel Menus	See **"Panel Menus" on page 3-32**
PPDS Emulation	See **"PPDS Emulation" on page 3-32**
Factory Defaults	See **"Factory Defaults" on page 3-33**
Energy Conserve	See **"Energy Conserve" on page 3-33**
Min Copy Memory	See **"Min Copy Memory" on page 3-34**
NumPad Job Assist	See **"NumPad Job Assist" on page 3-34**
Format Fax Storage	See **"NumPad Job Assist" on page 3-34**
ADF Edge Erase	See **"ADF Edge Erase" on page 3-34**
FB Edge Erase	See **"FB Edge Erase" on page 3-35**
Scanner Manual Registration	See **"Scanner Manual Registration" on page 3-35**
Disable Scanner	See **"Disable Scanner" on page 3-36**.
Paper Prompts	See **"Disable Scanner" on page 3-36**
Envelope Prompts	See **"Envelope Prompts" on page 3-36**
Action for Prompts	See **"Action for Prompts" on page 3-37**
Jobs On Disk	See **"Action for Prompts" on page 3-37**
Disk Encryption	See **"Disk Encryption" on page 3-38**
Wipe Disk	See **"Wipe Disk" on page 3-39**
Font Sharpening	See **"Font Sharpening" on page 3-39**
Require Standby	See **"Require Standby" on page 3-39**
LES App[lications	See **"LES Applications" on page 3-40**
Key Repeat Initial Delay	See **"Key Repeat Initial Delay" on page 3-40**
Key Repeat Rate	See **"Key Repeat Rate" on page 3-40**
Wiper Message	See **"Wiper Message" on page 3-40**
Clear Custom Status	See **"Clear Custom Status" on page 3-40**

Touch **Exit Config Menu** to exit the Configuration Menu, and `Resetting the Printer` displays. The printer performs a POR, and the printer returns to the ready mode.

Maintenance Counter Value

The current value for the maintenance page counter is displayed. This counter tracks printer usage. A print job containing a single page increments the counter by one and a duplex page by two. At 300,000, the customer is reminded that the printer requires scheduled maintenance. This counter is reset by the servicer after an 80 Scheduled Maintenance message displays and a maintenance kit is installed.

To view the maintenance page count, touch ⇨ to select **Maintenance Counter Value** from the Configuration Menu. The value is displayed and cannot be changed.

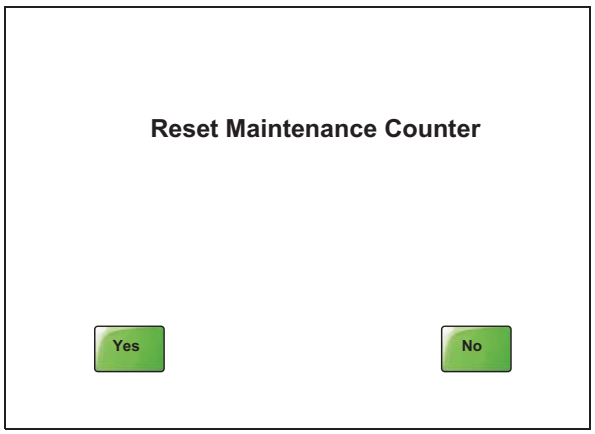
Touch **Back** to return to the main Configuration Menu.

Reset Maintenance Counter

After scheduled maintenance, the servicer needs to reset the page counter.

To reset the maintenance page count to zero:

1. Touch ⇨ to select Reset Maintenance Counter from the Configuration Menu.
2. Touch **Yes** to reset the counter, or touch **No** to exit without resetting the counter.



When the reset operation is complete, the menu returns to the main Configuration Menu.

USB Scan to Local

To change the USB Scan to Local setting:

1. Touch ⇨ to select **USB Scan to Local** from the Configuration Menu.
2. The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row. Touch ◀ or ▶ to change the setting. The selections are On and Off. The default is Enable.
3. Touch **Submit** to save your change.

Touch **Back** to exit without changing the value.

Print Quality Pages

The print quality test pages can be printed from either the Diagnostics Menu or Configuration Menu (CONFIG MENU). When printed from the Diagnostics Menu, additional information is included, and the print cartridge lockout is bypassed. See **"USB Scan to Local" on page 3-30**. Additional configuration information may be included on the print quality pages which is not included on the print menu page.

To print the Print Quality Test Pages, touch ⇨ to select **Print Quality Pages** from Configuration Menu. The message `Printing Quality Test Pages` is displayed.

The following is printed on the first page:

- Device Information to include page count, installed memory, processor speed, serial number engine ID, system card ID, and printer revision levels
- Cartridge Information
- Printer Margin Settings
- Scanner Margin Settings
- Minimum Stroke Width

The print quality pages consist of four pages. Page one contains a mixture of graphics and text. Page two is gray with two one-inch black squares located on the bottom right. Page three is solid black page and page four is blank. If duplex is turned on, the pages are duplexed. The Print Quality Test pages are printed in English and must always be printed on letter, legal, or A4 paper.

Reports

Menu Settings Page

To print the Menu Settings Page, touch ⇨ to select **Menu Settings Page** from Reports. The message **`Printing Menu Settings Page`** is displayed.

The following settings are printed:

Maintenance Counter Value	USB Scan to Local	Print Quality Pages
Reports	SIZE SENSING	Panel Menu
PPDS Emulation	Factory Defaults	Energy Conserve
Min Copy Memory	NumPad Job Assist	Fax Storage Location
ADF Edge Erase	FB Edge Erase	Scanner Manual Registration
Disable Scanner	Paper Prompts	Envelope Prompts
Disk Encryption	Wipe Disk	Font Sharpening
Required Standby	LES Applications	Key Repeat Initial Delay
Key Repeat Rate	Wiper Message	Clear Custom Status

Touch **Back** to return to the Configuration Menu.

Event Log

The event log provides a history of printer errors. The event log can only be printed in CONFIG MENU. Additional options are available in DIAGNOSTICS. See **"EVENT LOG" on page 3-25**.

To print the event log:

1. Touch ⇨ to select **Event Log** from Configuration Menu.
2. Touch ⇨ to print the log. **`Printing EVENT LOG..`** displays on the touchscreen.
3. Touch **Back** to return to EVENT LOG.

Note: An event log printed from the CONFIG MENU will not contain debug information or secondary codes for 900 service errors. However, the event log printed from DIAGNOSTICS mode does include this information.

SIZE SENSING

This setting controls whether the printer automatically registers the size of paper installed in an input source with size sensing.

Paper source	Size sensing
Tray 1 (integrated)	X
Multipurpose feeder	
250-sheet drawer	X
550-sheet drawer	X
2000-sheet drawer	X
250-sheet duplex	
550-sheet duplex	
Envelope feeder	

When the setting is Auto, every input option equipped with size sensing hardware automatically registers what size media it contains. When the setting is Off, the media size detected by hardware is ignored. The media size can be set by the operator panel or the data stream.

To change the size sensing setting:

1. Touch ⇨ to select **SIZE SENSING** from the Configuration Menu.
2. The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row. Touch ◀ or ▶ to change the setting. The selections are Auto and Off.
3. Touch **Submit** to save your change.

Touch **Back** to exit without changing the value.

Panel Menus

To change the Panel Menus setting:

1. Touch ⇨ to select **Panel Menus** from the Configuration Menu.
2. The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row. Touch ◀ or ▶ to change the setting. The selections are On and Off. The default is Enable.
3. Touch **Submit** to save your change.

Touch **Back** to exit without changing the value.

PPDS Emulation

This menu item allows the user to enable or disable PPDS emulation data stream. When this setting is enabled, the following settings are also changed:

- SmartSwitch settings for each port are turned off.
- The printer language is changed to PPDS Emulation.

Users can still switch languages on the operator panel and through the PJL data stream.

To change the PPDS Emulation setting:

1. Touch ⇨ to select **PPDS Emulation** from the Configuration Menu.
2. The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row. Touch ◀ or ▶ to change the setting. The selections are On and Off. The default is Off.
3. Touch **Submit** to save your change.

Touch **Back** to exit without changing the value.

Factory Defaults

This setting enables a user to restore all the printer settings to the original factory settings. Selections are **Restore Base, Restore STD NET**, or **Restore LES**. Restore LES enables you to remove all LXK Embedded Solutions applications (LES).

Network does not appear unless you have a network printer. The following settings are not changed:

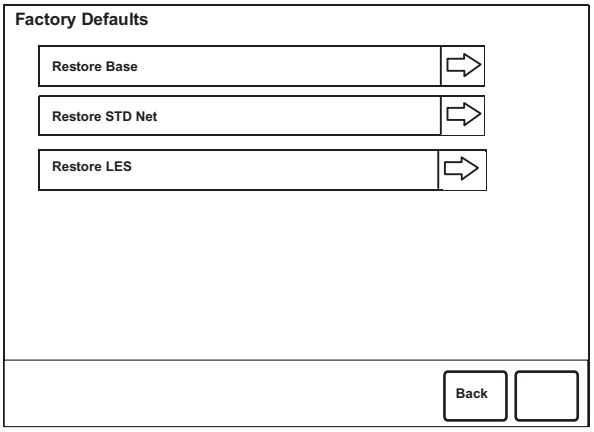
- Display language
- Settings in the NETWORK/PORTS MENU group.

To reset factory defaults:

1. Touch ⇨ to select Factory Defaults from the Configuration Menu.
2. Touch ⇨ to select either Restore Base, Restore STD NET, or Restore LES.

   Note: There is no confirmation, and selecting one of these settings immediately takes effect. The MFP restarts and returns to Ready state.

   `Restoring Factory Defaults` and then `Resetting the Device` are displayed.



Energy Conserve

This menu controls what values appear on the Power Saver menu. If **Off** is selected in Energy Conserve menu, then Disabled appears in the Power Saver menu, and Power Saver can be turned off. If **On** is set in Energy Conserve, the Power Saver feature cannot be disabled.

1. Touch ⇨ to select **Energy Conserve** from the Configuration Menu.
2. The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row. Touch ◀ or ▶ to change the setting. The selections are On and Off. The default is On.
3. Touch **Submit** to save your change.

Touch **Back** to exit without changing the value.

Min Copy Memory

1. Touch ⇨ to select **Min Copy Memory** from the Configuration Menu.
   The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row.
2. Touch ◀ or ▶ to change the setting.
   For example, the values may be 25 MB, 35 MB, 50 MB, and 100 MB. The default is 25 MB. Values will only be displayed if the amount of installed DRAM is at least twice the amount of the value, that is, at least 200 MB of installed DRAM is required to display the 100 MB selection.
3. Touch **Submit** to save your change.

Touch **Back** to exit without changing the value.

NumPad Job Assist

1. Touch ⇨ to select **NumPad Job Assist** from the Configuration Menu.
   The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row.
2. Touch ◀ or ▶ to change the setting.
   The settings are On and OFF.
3. Touch **Submit** to save your change.

Touch **Back** to exit without changing the value.

Format Fax Storage

This setting enables you to format the non-volatile storage used for storing faxes.

To change this setting, touch ⇨ to select **Format Fax Storage** from the Configuration Menu. `Formatting Fax Flash DO NOT POWER OFF` appears on the LCD while the format operation is active.

Note: If an advanced password has been established, you must enter this password in order to change the setting.

Fax Storage Location

To change this setting, touch ⇨ to select **Fax Storage Location** from the Configuration Menu.

1. Touch ◀ or ▶ to change the setting.
   The settings are Disk and NAND.
2. Touch **Submit** to save your change.

Touch **Back** to exit without changing the value.

ADF Edge Erase

The ADF Edge Erase and FB Edge Erase settings specify, in millimeters, the size of a border around the scanned image that will be erased. For copies, the printed page will have a 2 mm no-print border. The larger of the 2 mm no-print border and the Edge Erase setting will be used in this situation.

To change this setting:

1. Touch ⇨ to select ADF Edge Erase from the Configuration Menu.
   The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row.
2. Touch ▶ to increase the value or ◀ to decrease the value.
   The values are 0 through 6. The default is 3.

3. Touch **Submit** to save the change.

Touch **Back** to cancel and return to the Configuration Menu.

FB Edge Erase

The ADF Edge Erase and FB Edge Erase settings specify, in millimeters, the size of a border around the scanned image that will be erased. For copies, the printed page will have a 2 mm no-print border. The larger of the 2 mm no-print border and the Edge Erase setting will be used in this situation.

To change this setting:

1. Touch ⇨ to select **FB Edge Erase** from the Configuration Menu.
   The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row.
2. Touch ▶ to increase the value or ◀ to decrease the value.
   The values are 0 through 6. The default is 3.
3. Touch **Submit** to save the change.

Touch **Back** to cancel and return to the Configuration Menu.

Scanner Manual Registration

To perform the Scanner Manual Registration:

1. Touch ⇨ to select **Scanner Manual Registration** from the Configuration Menu.

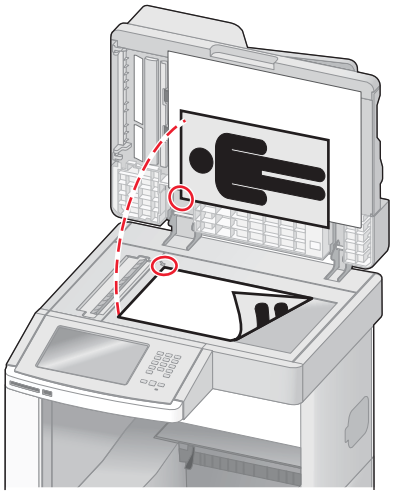
The panel displays the following headers:

- Print Quick Test
- Copy Quick Test
- Flatbed

2. Touch **Print Quick Test** to print a registration page.
3. Choose the section of the scanner to align.

To align the scanner glass (flatbed):

a. Place the Quick Test page facedown on the scanner glass.



b. Touch **Copy Quick Test**.
The scanner prints a copy of the Quick Test page.

c. Touch **Flatbed**.

d. Use the copy of the Quick Test page to adjust the Left Margin and Top Margin settings.

e. Touch **Submit**.

f. Touch **Copy Quick Test** and compare the new copy to the original. Repeat the flatbed alignment steps until the position on the page of the Quick Test copy closely matches the original.

To align the ADF:

a. Do one of the following:

- To align the ADF front: place the Quick Test page face up, short edge first into the ADF.
- To align the ADF back: place the Quick Test page facedown, short edge first into the ADF.

b. Touch **Copy Quick Test**.

The scanner prints a copy of the Quick Test page.

c. Touch **ADF Front** or **ADF Back**.

d. Use the copy of the Quick Test page to adjust the Horizontal Adjust and Top Margin settings.

e. Touch **Submit**.

f. Touch **Copy Quick Test** and compare the new copy to the original.

Repeat the ADF alignment steps until the position on the page of the Quick Test copy closely matches the original.

Touch **Back** to cancel and return to the Configuration Menu

Disable Scanner

To change this setting, touch ⇨ to select **Disable Scanner** from the Configuration Menu.

1. Touch ◀ or ▶ to change the setting.
   The settings are Enable, Disable and ADF Disable.
2. Touch **Submit** to save your change.

Touch **Back** to exit without changing the value.

Paper Prompts

When a tray is out of the indicated paper size, a prompt is sent to the user to load paper in a tray. This setting controls the tray the user is directed to fill.

1. Touch ⇨ to select **Paper Prompts** from the Configuration Menu.
   The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row.
2. Touch ▶ or ◀ to change the value.
   The values are Auto (default), MP Feeder, and Manual Paper.
3. Touch **Submit** to save the change.

Touch **Back** to exit without changing the value.

Envelope Prompts

This setting controls the tray the user is directed to refill when a specific envelope size is out. The selections are **Auto** (default), **MP Feeder**, and **Manual Envelope**.

1. Touch ⇨ to select **Envelope Prompts** from the Configuration Menu.
   The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row.
2. Touch ▶ or ◀ to change the value.
   The values are Auto (default), MP Feeder, and Manual Envelope.
3. Touch **Submit** to save the change.

Touch **Back** to exit without changing the value.

Action for Prompts

1. Touch ⇨ to select **Action for Prompts** from the Configuration Menu.
   The panel displays the setting's name in the header and ◀ [*setting's current value*] ▶ below the header row.
2. Touch ▶ or ◀ to change the value.
   The values are Prompt user (default), Continue, and Use current.
3. Touch **Submit** to save the change.

Touch **Back** to exit without changing the value.

Jobs On Disk

If the hard disk is installed, Jobs On Disk allows the user to delete buffered jobs saved on the disk. The values are **Delete** and **Do Not Delete**.

To delete jobs saved on the disk:

1. Touch ⇨ to select Jobs On Disk from the Configuration Menu.
2. Touch ⇨ to select **Delete** to delete buffered jobs saved on the disk.
3. Touch ⇨ to select **Do Not Delete** cancel and return to the Configuration Menu.

Disk Encryption

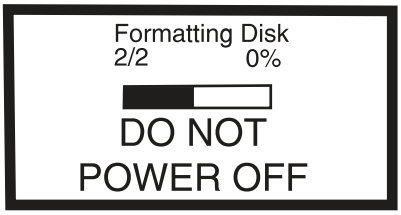
If a hard disk is installed, Disk Encryption selects whether the data on the disk is encrypted or not. The values are **Disable** and **Enable**. This setting determines if the printer encrypts the information that it writes to the hard disk.

Warning: If the value is changed from Enable to Disable or from Disable to Enable, then the printer completely formats the hard disk. All information on the disk will be unrecoverable.

To change this setting:

1. Touch ⇨ to select **Disk Encryption** from the Configuration Menu.

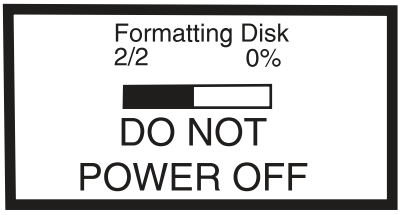
   Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.
2. Touch ⇨ next to either **Enable** or **Disable**.
   If you remove an encrypted disk from a device and then try to install another disk, **`Disk Corrupted. Reformat?`** appears on the LCD. You can format the newly installed disk or remove it from the device.
3. **`Contents will be lost. Continue?`** appears on the touchscreen. Touch **No** to cancel or **Yes** to proceed. If you select Yes, the printer performs the selected action on the hard disk. The following graphic appears when the encryption process is selected:



The panel provides many progress indicators during the two-stage process.

- 1/2 indicates that the process is currently in the first stage.
- 0% indicates the progress of the current stage of the process.
- The progress bar indicates the overall completion of the entire process by filling in throughout each separate stage.

When the first stage of either process completes, the printer displays either of the following graphics depending on the process selected and then begins the second stage of the process:



The entire process is complete when the progress bar appears completely shaded and the percentage indicator shows 100%. After completion, the panel returns to Disk Encryption.

Wipe Disk

This setting provides you with a tool for erasing the contents of a disk.

Warning: Wipe Disk removes a disk's data in such a way that it cannot be recovered.

To change this setting:

1. Touch ⇨ to select **Wipe Disk** from Configuration Menu.

   Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.
2. Touch ⇨ to select **Wipe disk now**.

   `Contents will be lost. Continue?` appears on the touchscreen.
3. Touch **Back** to return to Configuration Menu.
4. Touch **Yes** to continue, or touch **No** to exit.

Font Sharpening

This setting allows a user to set a text point size below which the high frequency screens are used when printing font data. For example, at the default 24, all text in font sizes 24 and less will use the high frequency screens. The values for this setting range from 0 to 150, and the default value is 24. This setting affects PostScript, PCL, and XL.

To change this setting:

1. Touch ⇨ to select **Font Sharpening** from the Configuration Menu.
2. Touch ▶ to increase the value or ◀ to decrease the value.
3. Touch **Submit** to save the change.

Touch **Back** to cancel and return to the Configuration Menu.

This function is not supported when the device generates output at 600 dpi resolution.

Require Standby

This setting determines if the Standby Mode is On or Off. The default is On.

If Standby Mode is On, the printer begins functioning in Standby Mode when it remains idle for an amount of time. The Standby Mode enables the printer:

- To consume less energy than when operating in normal mode but not as little as when operating in Power Saver
- To return to the Ready state more quickly than when operating in Power Saver

To change this setting:

1. Touch ⇨ to select **Require Standby** from the Configuration Menu.
2. Touch **Submit** to save the change.

Touch **Back** to cancel and return to the Configuration Menu.

LES Applications

This disables all installed LXK Embedded Solution applications. The default is Enabled.

To change this setting:

1. Touch ⇨ to select **LES Applications** from the Configuration Menu.

   Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.
2. Touch **Submit** to save the change.

Touch **Back** to cancel and return to the Configuration Menu.

Key Repeat Initial Delay

When a key is touched repeatedly, this is the delay before the key begins repeating. The delay ranges from 0.25 seconds to 5 seconds. The default is 1 second. Values are given in increments of 0.25 seconds.

To change this setting:

1. Touch ⇨ to select **Key Repeat Initial Delay** from the Configuration Menu.
2. Touch ▶ to increase the value or ◀ to decrease the value.
3. Touch **Submit** to save the change.

Touch **Back** to cancel and return to the Configuration Menu.

Key Repeat Rate

This is the number of times per second that a repeating key will repeat. The range is 1–100, with a default of 15 times per second.

To change this setting:

1. Touch ⇨ to select **Key Repeat Initial Delay** from the Configuration Menu.
2. Touch ▶ to increase the value or ◀ to decrease the value.
3. Touch **Submit** to save the change.

Touch **Back** to cancel and return to the Configuration Menu.

Wiper Message

To change this setting:

1. Touch ⇨ to select **Wiper Message** from the Configuration Menu.
2. Touch ▶ or ◀ to change the value. The values are On (default) and Off.
3. Touch **Submit** to save the change.

Touch **Back** to cancel and return to the Configuration Menu.

Clear Custom Status

No values exist for this operation. Pressing ✓ initiates this operation.

Touch ⇨ to select **Clear Custom Status** from the Configuration Menu.

Note: Executing this operation erases any strings that have been defined by the user for the default or alternate custom messages.

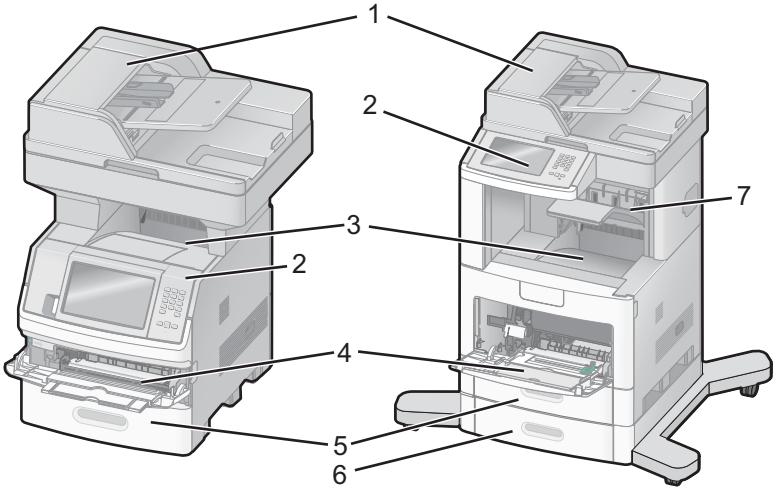
Exit Configuration Menu

Touch **Exit Config Menu** to exit the Configuration Menu. The printer performs a POR, and the printer returns to the ready mode.

Printer configurations

Note: Printer configuration may vary depending on your printer model.

Basic models



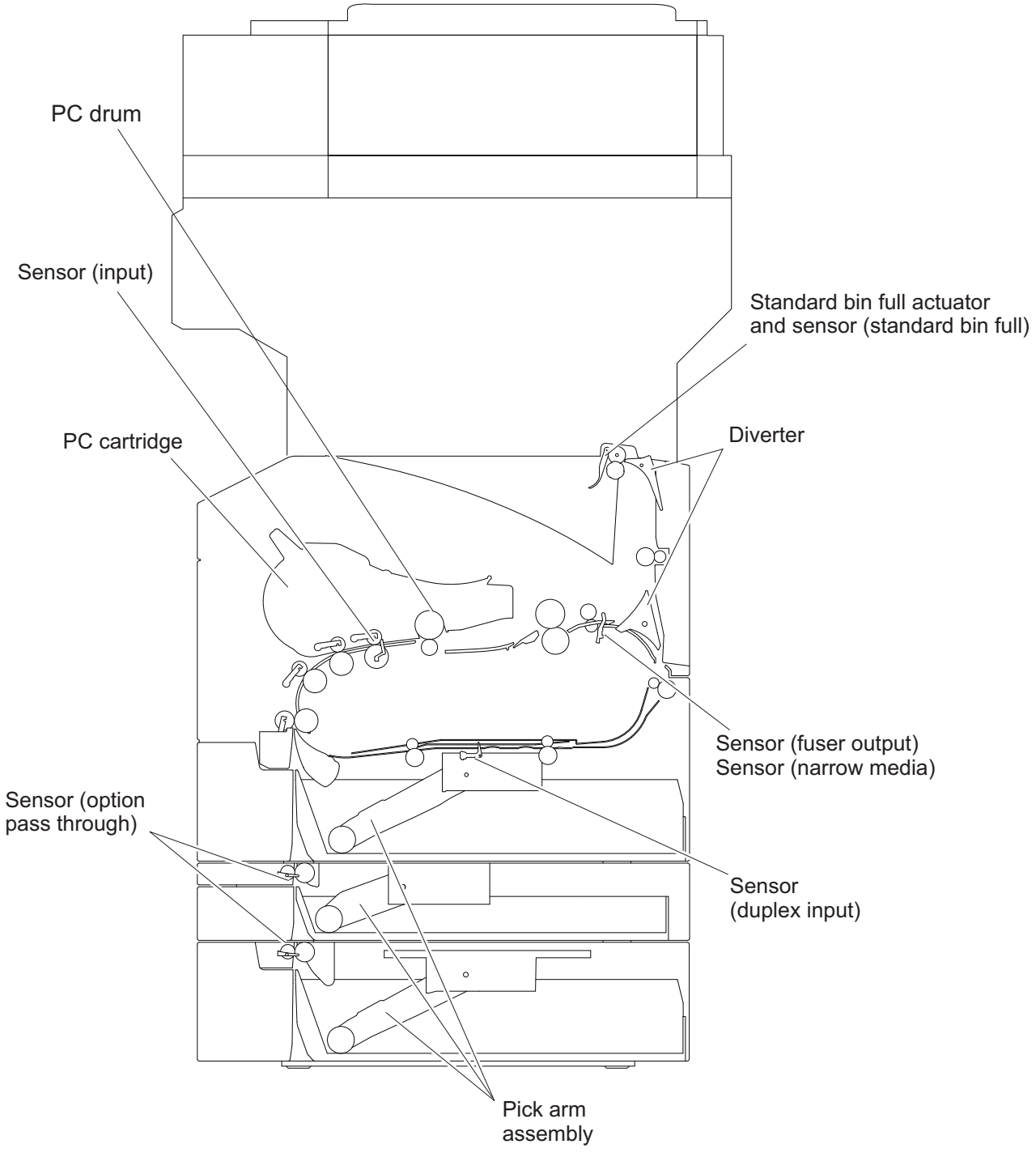
1	Automatic Document Feeder (ADF)
2	Printer control panel
3	Standard exit bin
4	Multipurpose feeder
5	550-sheet tray (Tray 1)
6	550-sheet tray (Tray 2)
7	Optional output bin

CAUTION:

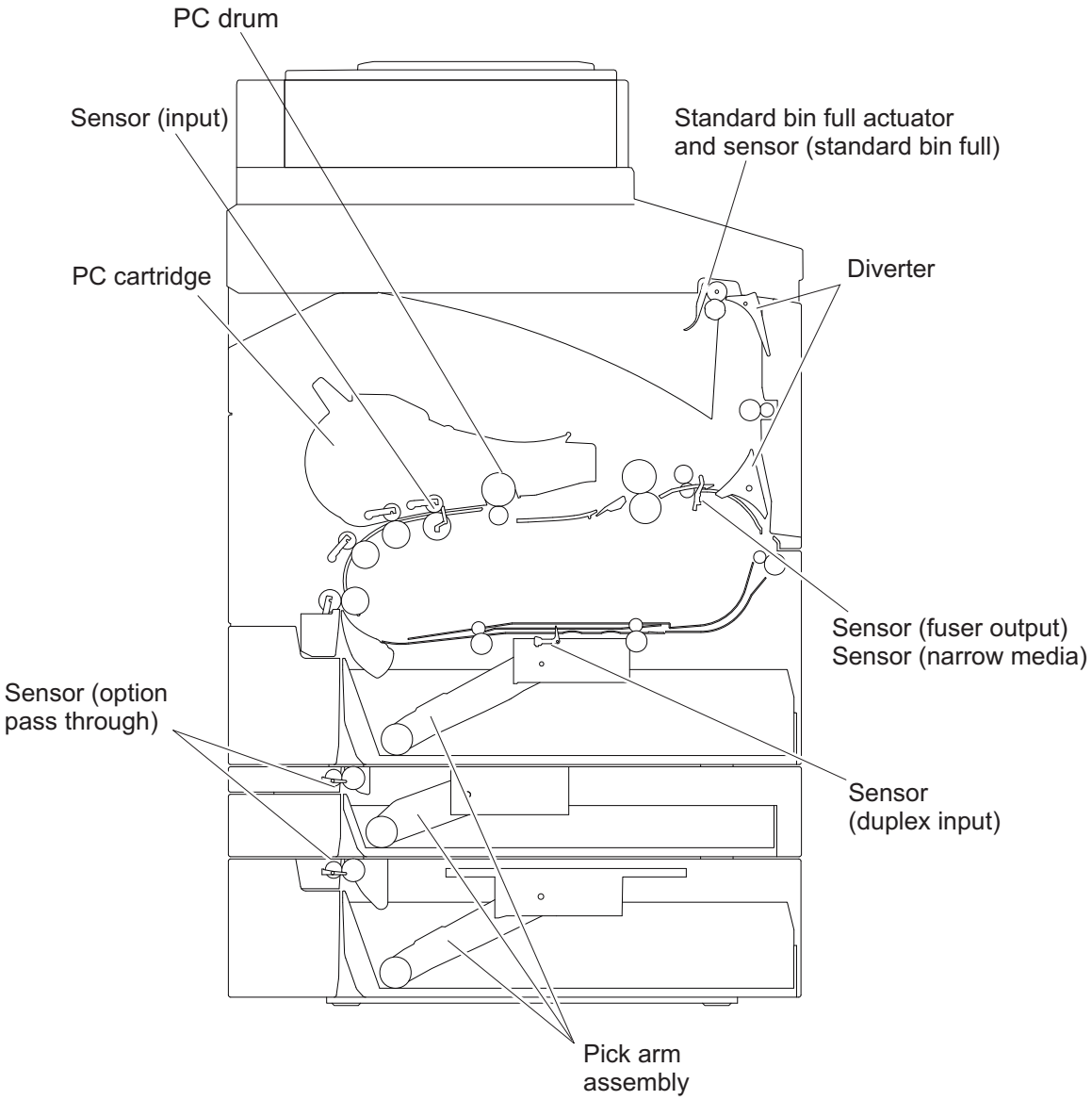
Floor-mounted configurations require additional furniture for stability. You must use either a printer stand or printer base if you are using a 2000-sheet drawer. Certain other configurations also must have a printer stand or printer base.
More information is available on our Dell Web site at **www.dell.com**.

Printer theory

Models X651, X652/5535dn, X654, and X656 paper path rolls and sensors



Model X658 paper path rolls and sensors



Functions of main components

- Media tray assembly
- Pic arm assembly (feed)
- MPF
- Xerographics
- Transfer
- Fuser
- Drive
- Electrical components and rolls

Media tray assembly

It is necessary to adjust the media tray rear guide and media tray side guide of the media tray assembly to match the media size.

Rear media guide

The rear media tray guide assembly can be adjusted to different media sizes by moving it to the front or rear. The rear guide should come into contact with the media and hold it in position.

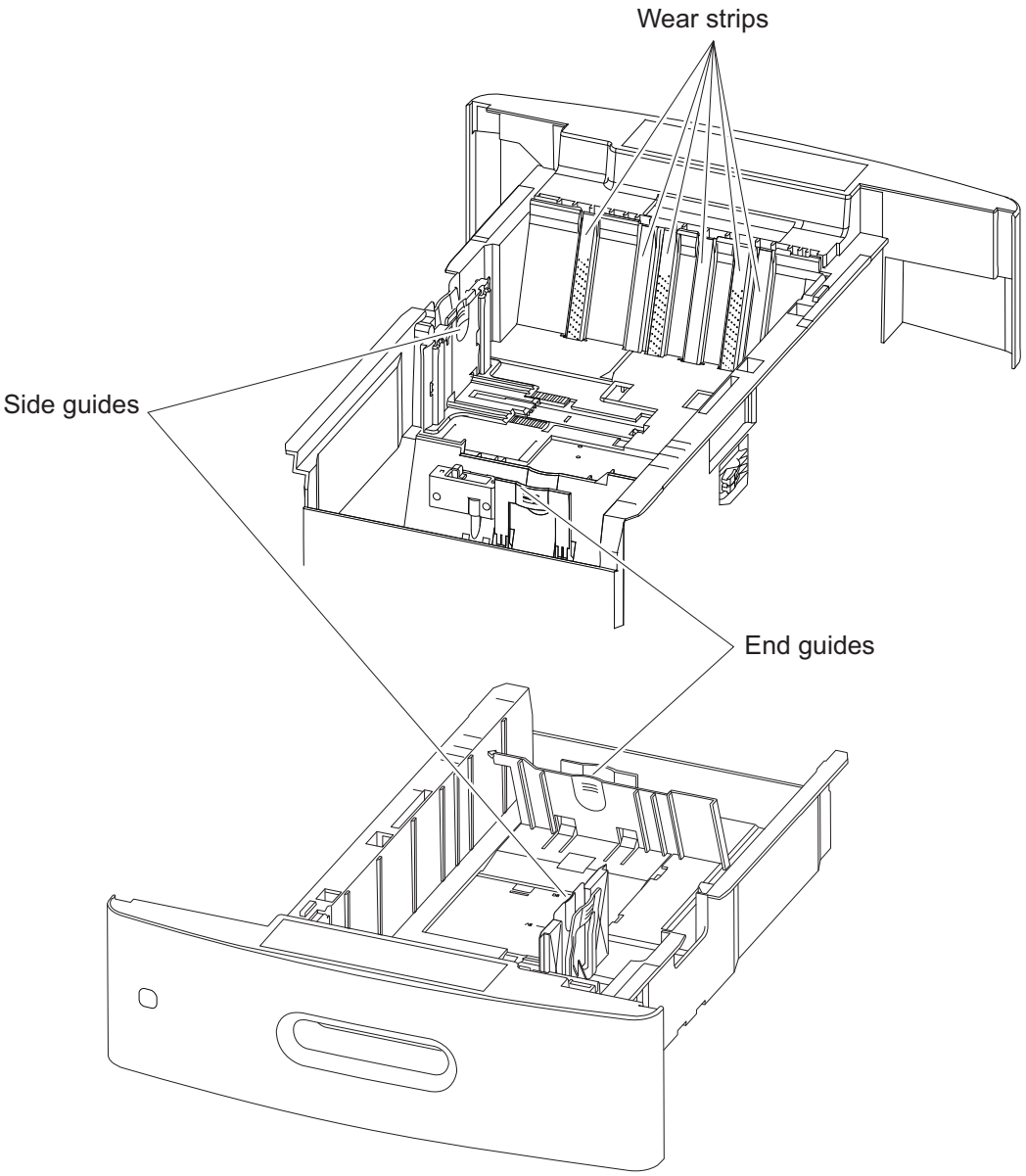
Side guide

The media tray assembly is designed so it can adapt to the media width in the media feed direction by moving the side guide to the left or right.

Wear strips

The wear strips are designed to provide a fixed resistance to ensure that a single piece of paper is properly fed out of the media tray. There are several types of wear strips available for custom or hard to feed media.

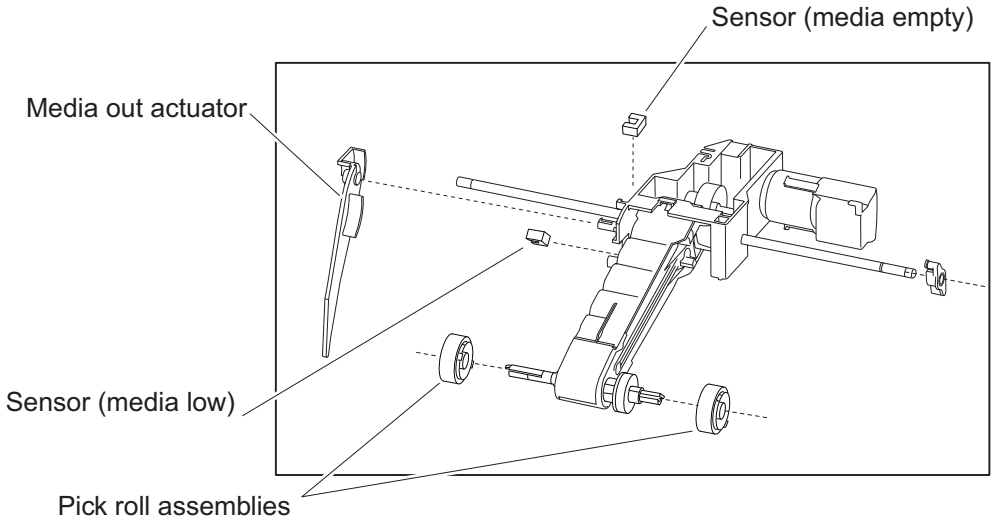
Media tray assembly



Detection of media size

The media size set for the media tray assembly is transmitted to the switch (media size) by moving these guides. The media size is detected by the on/off information of these switches.

Pick arm assembly



Since all media trays are functionally equivalent in terms of the switch (media size), sensor (media empty), sensor (media low), only the components of one tray are described here.

The pick arm assembly is a mechanical unit supplying media from the media tray assembly to the printer. The driving force, from the pick arm drive motor on the pick arm assembly, is transmitted to the two pick rolls to feed media.

When the pick rolls pick up media, the remaining media decreases, and the media out actuator will lower and interact with the sensor (media low) and sensor (media empty) to determine the amount of media remaining.

The pick arm assembly (autocompensator) is a paper pick device that generates its own normal force. This force generation is inherent in the fundamental design of the pick arm. If light media is used, it picks very gently. If a heavy media is used, it picks very aggressively. No customer adjustments are necessary, therefore no special trays are needed for card stock or labels. The gearing in the arm is designed so the input torque from the motor produces a movement about the pivot of the arm. This movement produces a downward force at the pick rolls. The friction between the pick roll and the paper produces a frictional locking condition. If the paper is physically held and not allowed to feed, then the motor stalls. Slippage between the roll and the paper is theoretically impossible. When the motor is energized, the pick rolls are driven down into the stack, increasing the normal force and drive force until the bending strength of the paper is overcome and the paper bends and moves up the wear strip.

Switch (media size)

This switch (media size) sets the size of media supplied from each media tray assembly. A signal indicating the media size is transmitted as a voltage to the printer system card assembly.

Sensor (media empty)

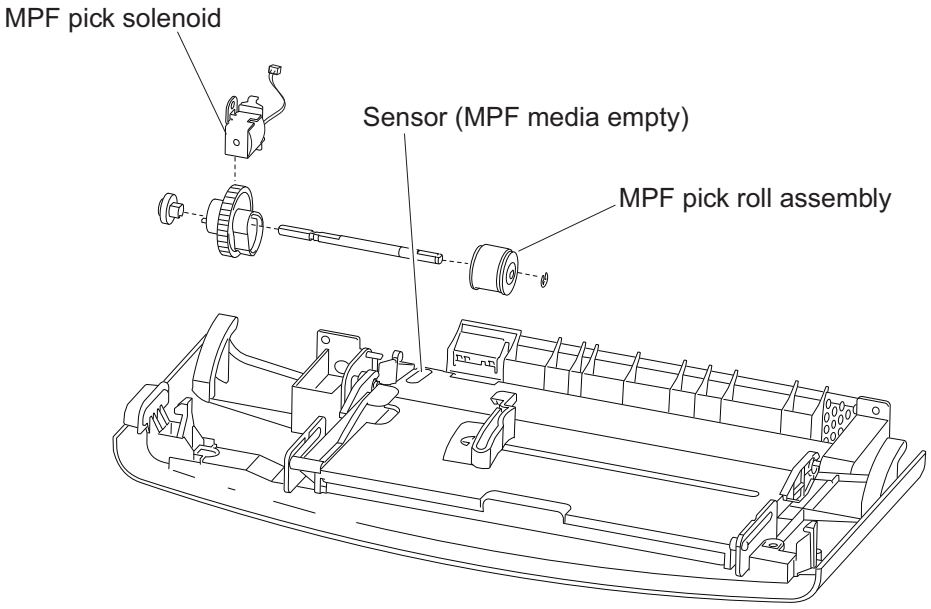
If media runs out in a media tray assembly, the actuator lowers and the actuator flag, unlocks the sensing area of the sensor (media empty). The sensor light is transmitted. When the sensing area is blocked (media is present), the signal is off.

Sensor (media low)

This sensor detects by the actuator position whether media in the media tray assembly is low. When the flag of the actuator blocks, then unblocks the sensing area of the sensor (media low), the media level is determined to be low.

Multi-purpose feeder (MPF)

The MPF is a mechanical unit supplying media to the printer. The driving force from the main drive motor drive motor is transmitted to the MPF pick roll to feed media.



MPF feed roll

The MPF pick roll feeds the media set on the MPF into the printer.

MPF pick solenoid

The MPF pick solenoid transmits the driving force from the main drive motor assembly to the MPF pick roll.

Sensor (MPF media empty)

The sensor (MPF media out) detects whether media is present on the MPF.

Supported paper sizes, types, and weights

The following tables provide information on standard and optional paper sources and the types of paper they support.

Note: For an unlisted paper size, select the closest larger listed size

Paper sizes supported by the printer

Paper size	Dimensions	250-or 550-sheet trays (standard or optional	Optional 2000-sheet tray	Multipurpose feeder	Duplex unit
A4	210 x 297 mm (8.3 x 11.7 in.)	x	x	x	x
A5	148 x 210 mm (5.8 x8.3in.)	x		x	x
A6[1,2]	105 x 148 mm (4.1 x 5.8 in.)			x	
J15 B5	182 x 257 mm (7.2 x 10.1 in.)	x		x	x
Letter	216 x 279 mm (8.5 x 11 in.)	x	x	x	x
Legal	216 x 356 mm (8.5 x14 in.)	x	x	x	x
Executive	184 x 267 mm (7.3 x 10.5 in.)	x		x	x
Oficio[1]	216 x340 mm (8.5 x 13.4 in>)	x		x	x
Folio[1]	216 x 330 mm (8.5 x 13 in.)	x		x	x
Statement[1]	140 x 216 mm (5.5 x8.5 in.)	x		x	
Universal[3,4]	138 x 210 mm (5.5 x8.3 in.) up to 216 x 356 mm (8.5 x 14 in.)	x		x	
	70 x 127 mm (2.8 x 5 in.) up to 216 x 356 mm (8.5 x 14 in.)			x	
	148 x 182 mm (5.8 x 7.7 in.) up to 216 x 356 mm (8.5 x 14 in.)	x		x	x
7 3/4 Envelopes (Monarch)	98 x 191 mm (3.9 x 7.5 in.)			x	
9 Envelope	98 x 225 mm (3.9 x 8.9 in.)			x	
10 Envelope	105 x 241 mm (4.1 x 9.5 in.)			x	

Paper size	Dimensions	250-or 550-sheet trays (standard or optional	Optional 2000-sheet tray	Multipurpose feeder	Duplex unit
DL Envelope	110 x 220 mm (4.3 x 8.7 in)			x	
Other Envelope	98 x 162 mm (3.9 x 6.4 in.) to 176 x 250 mm (6.9 x 9.8 in.)			x	

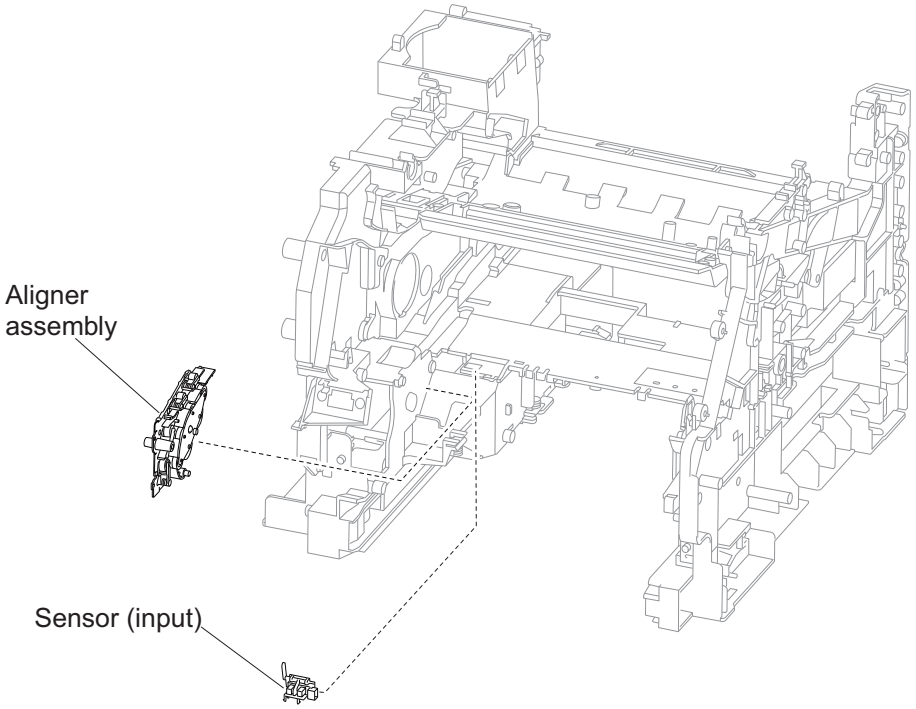
[1]This size appears in the Paper Size menu only when the paper source does not support size sensing or when size sensing is turned off.

[2]Only the standard exit bin supports this size.

[3]This size setting formats the page for 216 x 356 mm (8.5 x 14 in.) unless the size is specified by the software application.

[4]To support duplexing, the Universal width must be between 148 mm (5.8 in) and 216 mm (8.5 in); Universal length must be between 182 mm (7.2 in) and 356 mm (14 in).

Registration



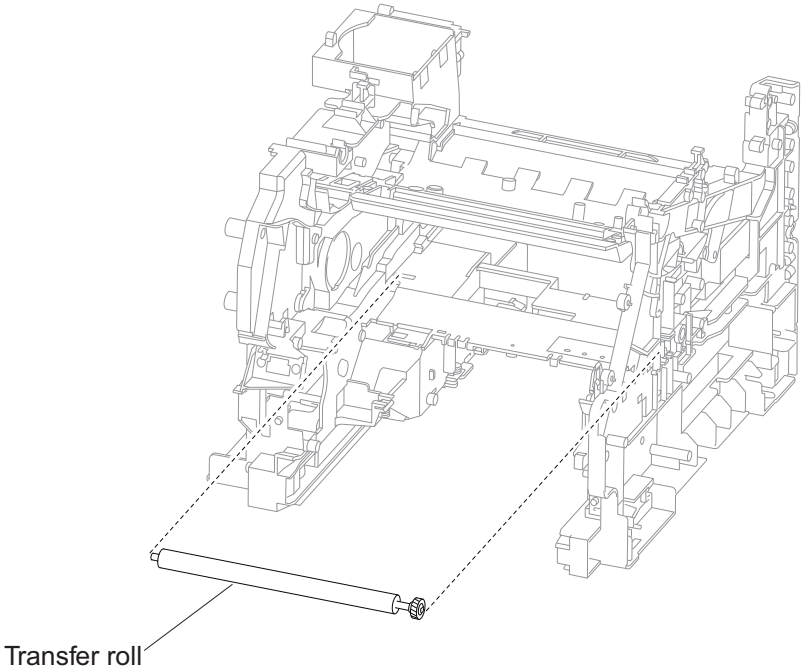
Sensor (input)

The sensor (input) is located just before the print cartridge and can detect whether media exists in the input path.

Alignment assembly

The alignment assembly is used to feed the media through the input path and to ensure that media is fed through the machine in a perfectly straight manner and not in a skewed manner. The alignment assembly can be adjusted to correct media skew issues and should always be adjusted when it is replaced.

Transfer

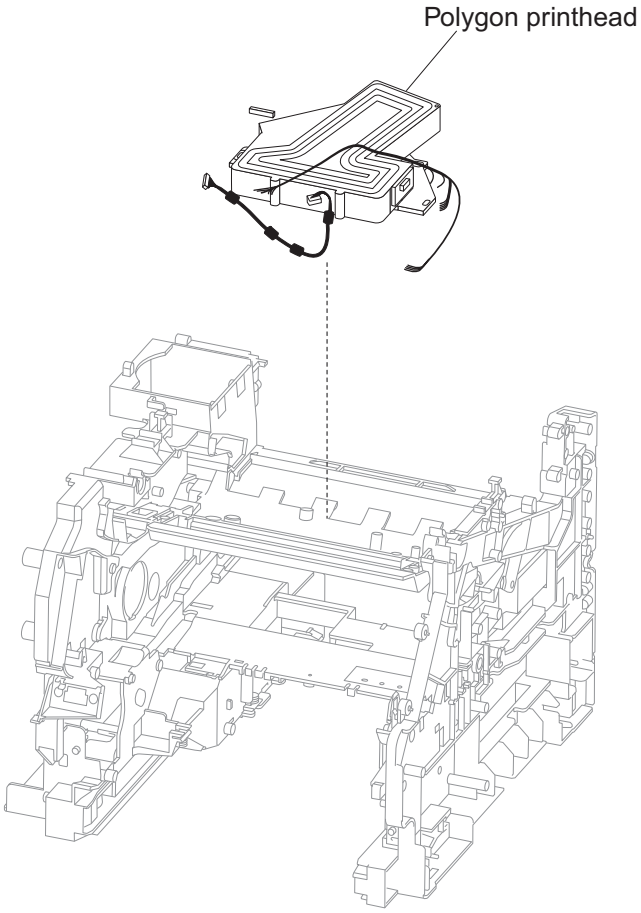


Transfer roll assembly

The transfer roll assembly applies charge to the rear surface of the media when the media passes between the transfer roll assembly and photo conductor (drum). Thus, the toner image is transferred from the photo conductor (drum) surface to the media surface.

Polygon printhead assembly

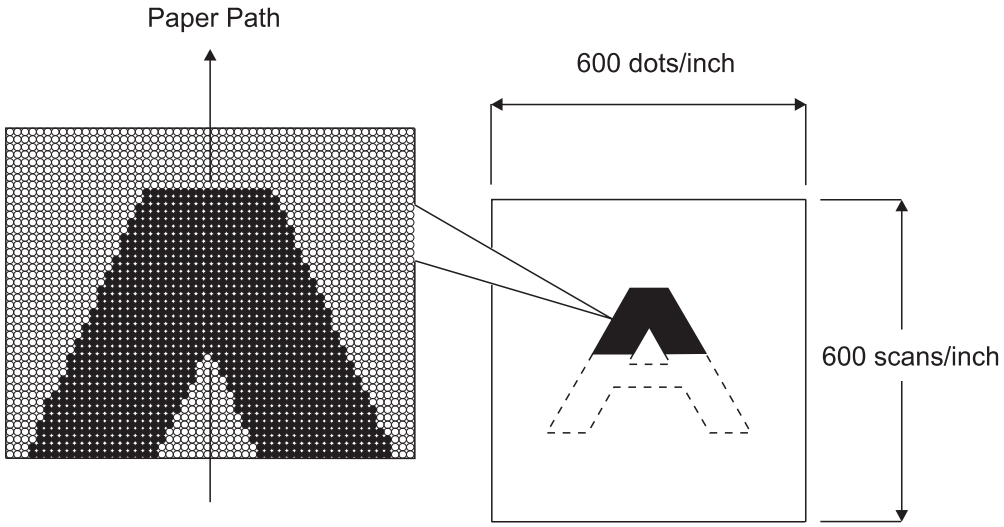
The printhead scans the photo conductor drum surface with a laser beam. It consists of four components: laser diode (LD) card assembly, printhead motor, polygon mirror, and the start of scan card assembly.



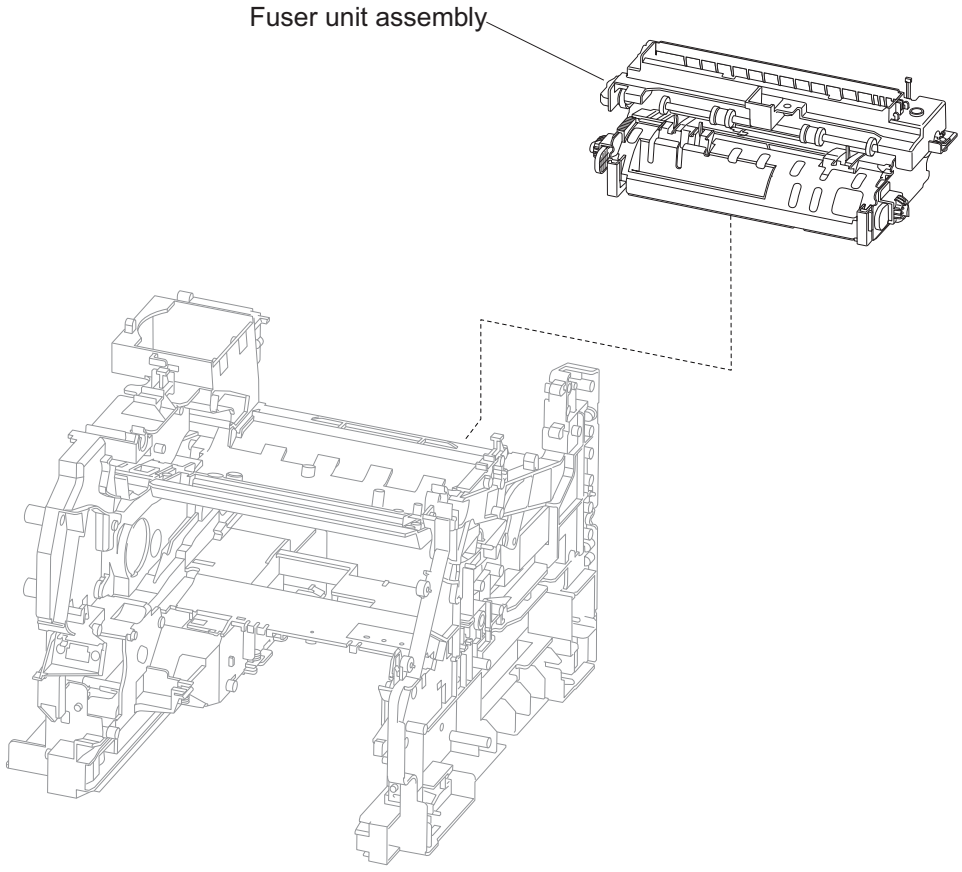
1. LD card assembly — generates the laser beam. The beam is turned on or off according to a print data signal coming from the system card.
2. Printhead motor/polygon mirror — the polygon mirror is mounted to the shaft of the printhead motor, and is rotated at a high speed by the printhead motor. The mirror rotation shifts the incidence and reflection angles of a laser beam to scan the photoconductor (drum) in a single direction. The laser beam reaches the polygon mirror as it passes through multiple lenses, mirrors, and windows. The laser beam then arrives at the photo conductor (drum) surface.
3. SOS card assembly — when a laser beam hits the SOS sensor on the SOS card assembly, the beam is converted to an electrical signal (SOS signal), and detects the initial position where a scan starts on each line.

When a laser beam is scanned across the photoconductor (drum) surface from one end to the other while turning on and off the beam, one line of latent image is created. If the scanning by the laser beam is repeated while rotating the drum, a two-dimensional image is created. The resolution in the scanning direction (from right to left) is determined by the rotational speed of the printhead motor, depending on how quickly the laser is adjusted. The resolution in the process direction (from top to bottom) is determined by the rotational speed of the printhead motor. (The higher the scanning speed becomes, the sooner the scanning of the next row can be started.)

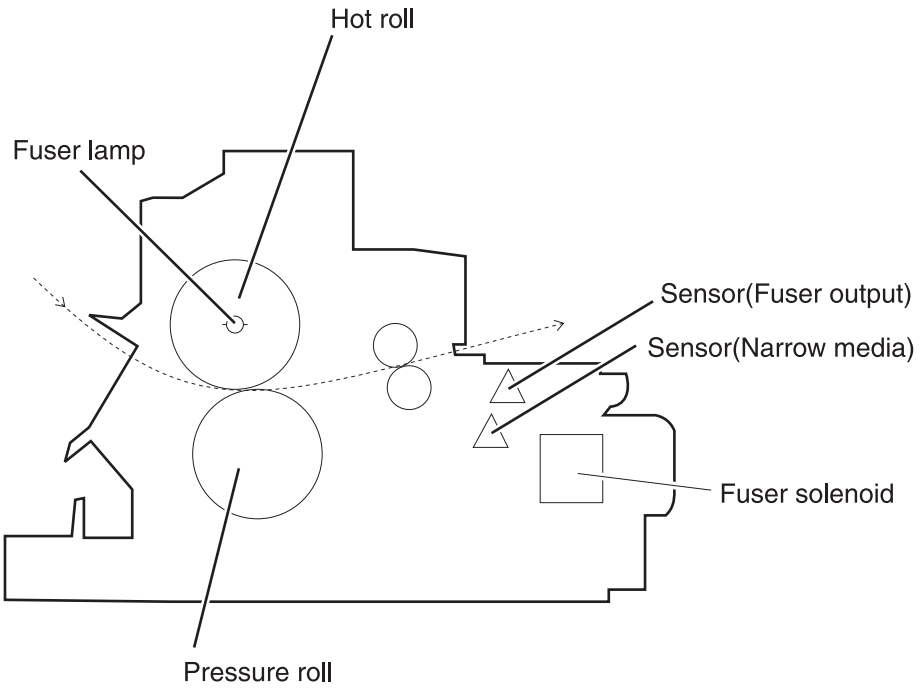
Conceptual diagram of an image created by scanning



Fuser



Fuser components



Heat roll

The heat roll is a hollow metal tube with a coated surface. This tube is heated by the inner heater lamp. The heat is applied to the media passing between the heat roll and pressure roll, fusing the toner on the media.

Pressure roll

The pressure roll is used to apply pressure to the media surface for fusing. Pressure is applied to the media between the pressure roll and heat roll, pressing the melted toner against the media.

Heater lamp

The heater lamp is a quartz glass tube containing a heater coil. A terminal is mounted to the end of the heater rod via a harness.

Thermal cutoff

If the heat roll temperature exceeds the preset temperature, the thermal cutoff cuts off the circuits of the main heater lamp and sub heater lamp.

Thermistor

The thermistor monitors the surface temperature of the media-feed portion of the heat roll to control on/off of the main heater lamp and sub heater lamp.

Sensor (fuser output)

The sensor (fuser output) detects the arrival of media at the detection point in the exit area of the fuser, and also detects the ejection of media from this point.

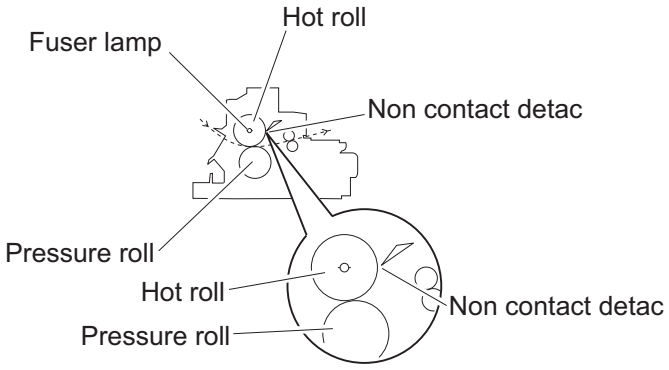
Sensor (narrow media)

The sensor (narrow media) detects the arrival of narrow media at the detection point in the exit area of the fuser, and also detects the ejection of media from this point. It is used to make adjustments to ensure that narrow media is properly fused.

Fuser unit assembly (type 1 and type 2)

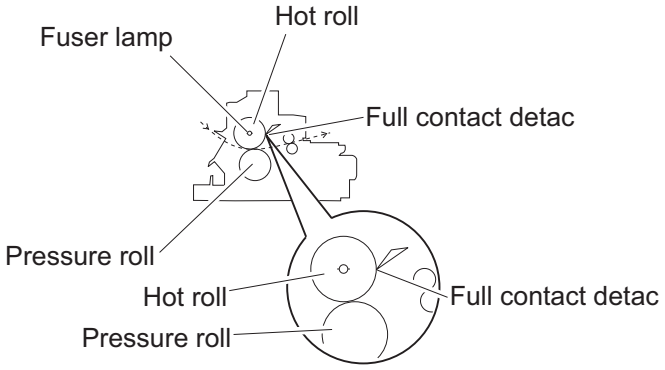
Type 1 fuser unit assembly

In the type 1 fuser unit assembly, the detacs, which are used to prevent the media from sticking to the hot roll, do not make contact with the hot roller. The type 1 fuser unit assembly has a life of 300K.

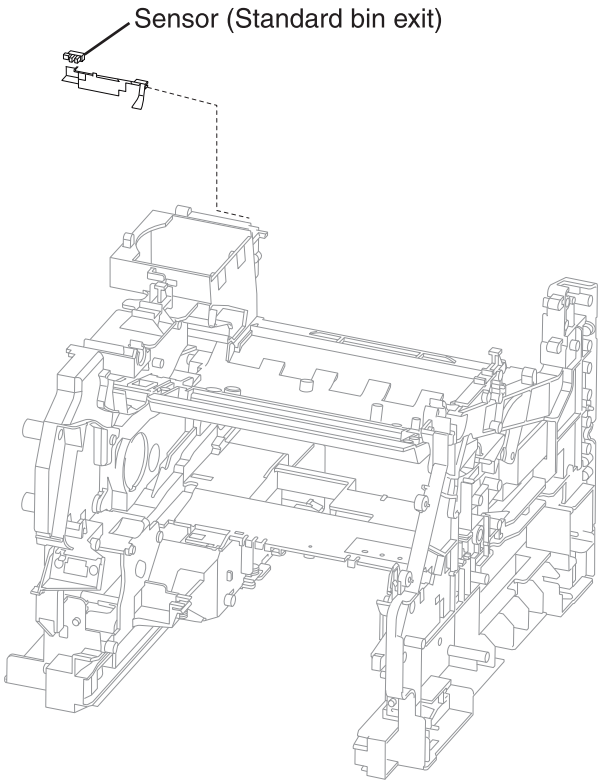


Type 2 fuser unit assembly

In the type 2 fuser unit assembly, the detacs, which are used to prevent the media from sticking to the hot roll, do make full contact with the hot roller. The type 2 fuser unit assembly has a life of 150K.



Exit



The standard media exit ejects printed media from the printer to the standard bin .

Sensor (standard bin full)

The sensor (standard bin full) detects whether the standard bin is full by moving the actuator up and down.

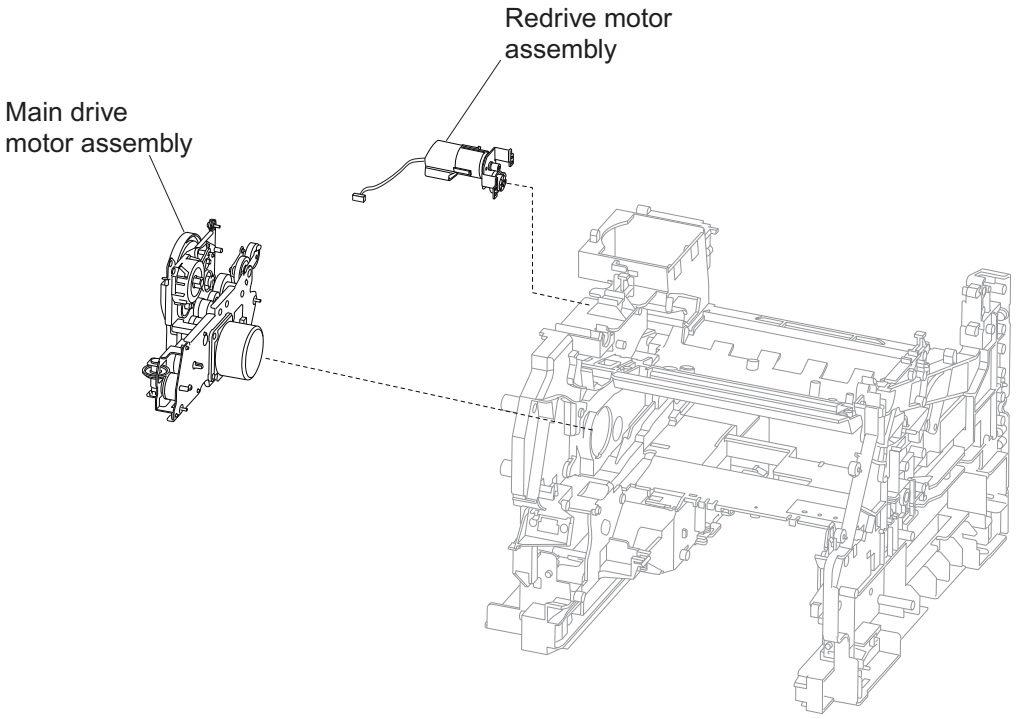
Drive

Main drive motor assembly

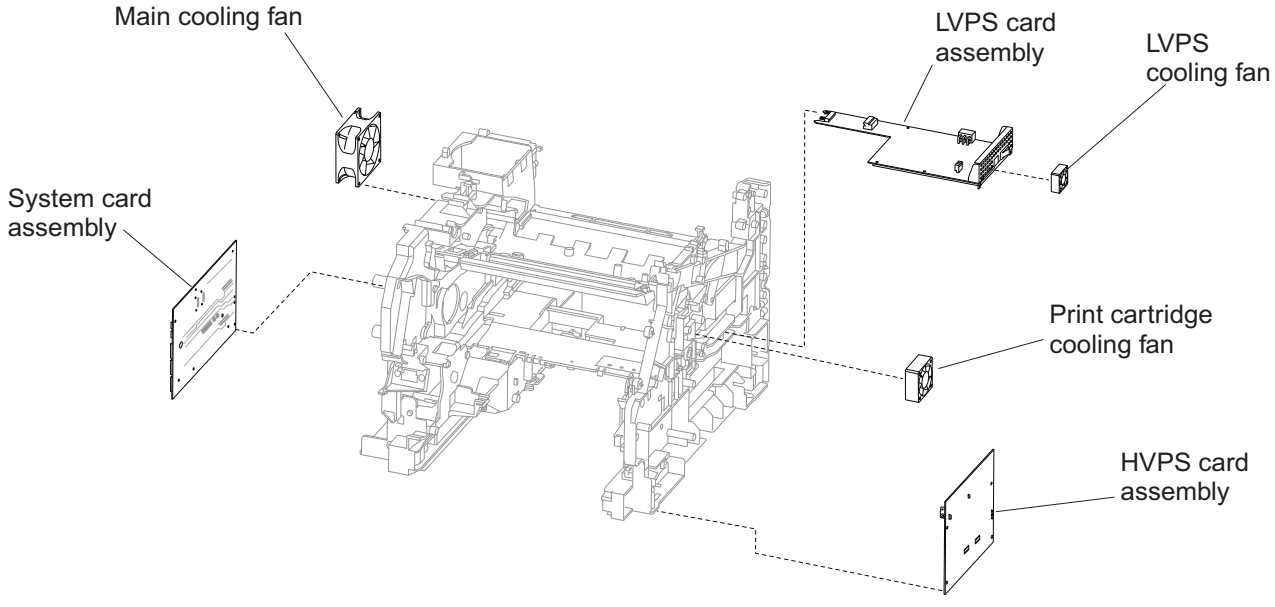
The main drive motor is a DC motor that drives the print cartridge, aligner, MFP and fuser.

Redrive motor assembly

The redrive motor assembly is a DC motor that drives the redrive assembly that transports the media into the standard bin or output option.



Electrical components and controller



Switch (printer front door interlock)

The switch is a safety switch to cut off a 24 VDC power supply from the LVPS card assembly to the high volt power supply (HVPS) card assembly, printer system card assembly and to the main drive motor assembly, while the printer front door assembly is open.

Main cooling fan

The main cooling fan discharges air from the printer to prevent excessive temperature increase.

Print cartridge cooling fan

The print cartridge cooling fan discharges air from the print cartridge area to prevent excessive temperature increase.

Duplex cooling fan

The Duplex cooling fan discharges air from the duplex drive motor area to prevent excessive temperature increase.

LVPS card assembly

The LVPS card assembly generates low voltages 5V for logic circuits, 5 V for laser diodes and 24V for cooling fans. The LVPS is switchable and can be switched to work with 100V, 110 and 220V machines.

LVPS cooling fan

The LVPS cooling fan discharges air from the LVPS to prevent excessive temperature increases

HVPS card assembly

The HVPS card assembly generates AC power and feeds it to the developer roll, the transfer roll assembly and the charge roll assembly.

System card assembly

The system card assembly controls printing operation based on the communication with the RIP controller and optional peripherals. It also controls toner dispense, fuser control, sensor switch feedback, drive motors, clutches and solenoids

Control

Printhead control

Rotation of printhead motor

The on/off control of the printhead motor is performed according to the mode of operation as shown below.

Operation mode	PRINTHEAD motor on/off
Standby mode	Always off
Print mode	Turns on upon receiving the signal from the controller, and turns off after a preset time has passed from the end of printing. Also turns off if a print command is not received within 30 seconds from the reception of the signal.
Sleep mode	Always off

Determination of printhead ready

The printhead goes into ready state after the specified period passes since the reception of the printhead MPA start signal and the SOS cycle exceeds the reference value.

Printhead reference value

Printhead reference value	Description
Ready reference value	SOS signal interval (equivalent to 98% or more of the rated RPM of the printhead motor)
Fail reference value	SOS signal interval (less than 98% of the rated rpm of the printhead motor)

Fuser control

Fuser control method

The on/off control of the main/sub heater lamps is performed based on the fuser control temperature. The fuser transmits between the five states (warm up, ready, standby, print, and low power) depending on the heat roll surface temperature or printer conditions.

The fuser temperature control starts when the fuser ready in the system card assembly is turned on after a preset time period has passed from power on. If a failure occurs, the heater lamps are turned off, the fuser ready is turned off, and then the fuser temperature control is stopped.

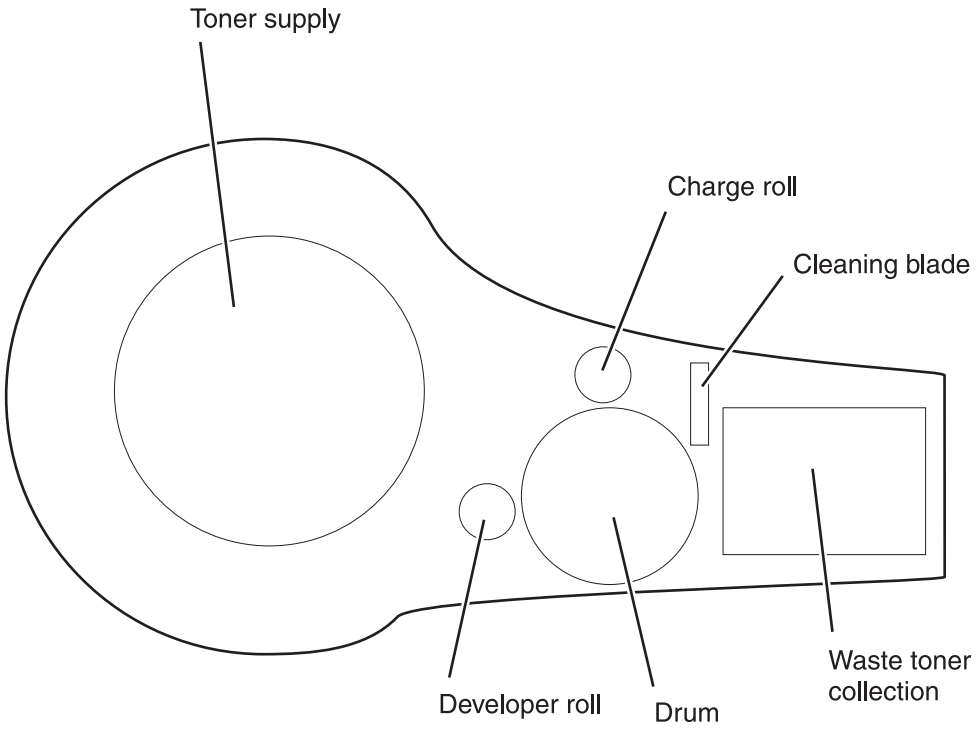
Fuser lamp on/off control

The thermistor detects the heat roll surface temperature (fuser temperature) to regulate the temperature at the target control temperature by turning on or off the heater lamp.

Fuser warm-up

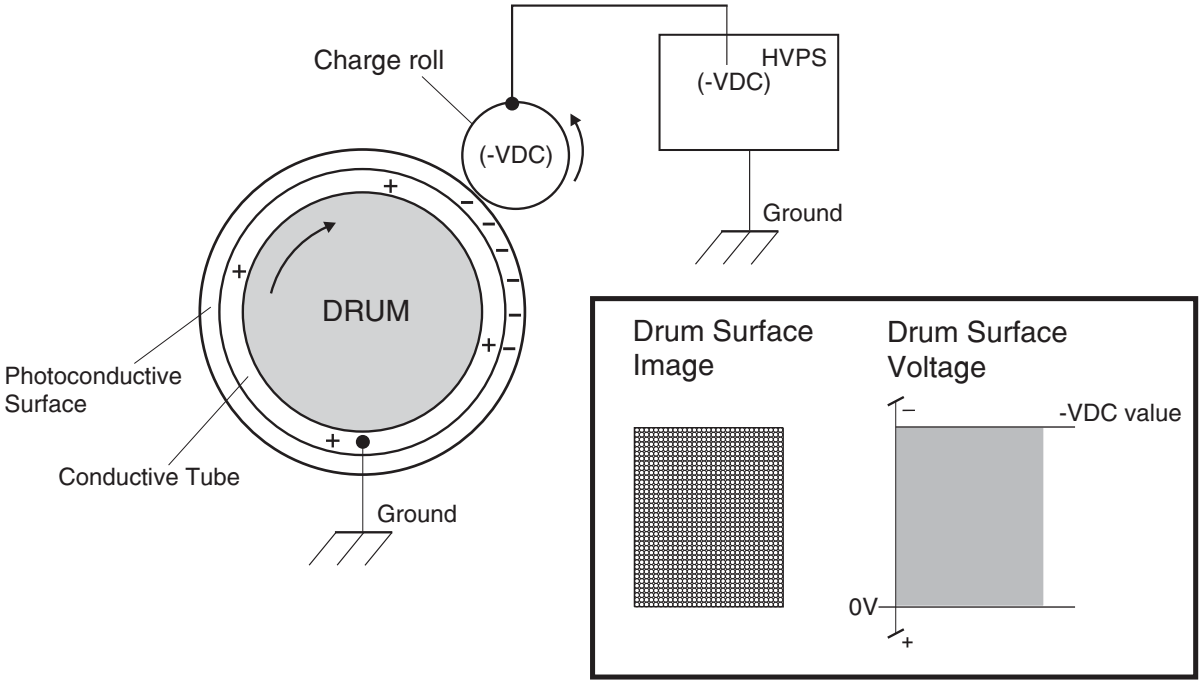
The fuser warm-up starts at the time of power on, interlock open or close, jam reset, or return from the low power mode, and ends when the ready temperature is attained, when a failure occurs, or when executing diagnosis.

Xerographic and print cartridge components



Charge

The Charge Roll places a uniform negative electrostatic charge on the surface of the drum. The drum surface is made of a photoconductive material that holds an electrical charge as long as the drum remains in darkness. Light striking the drum discharges the surface charge.

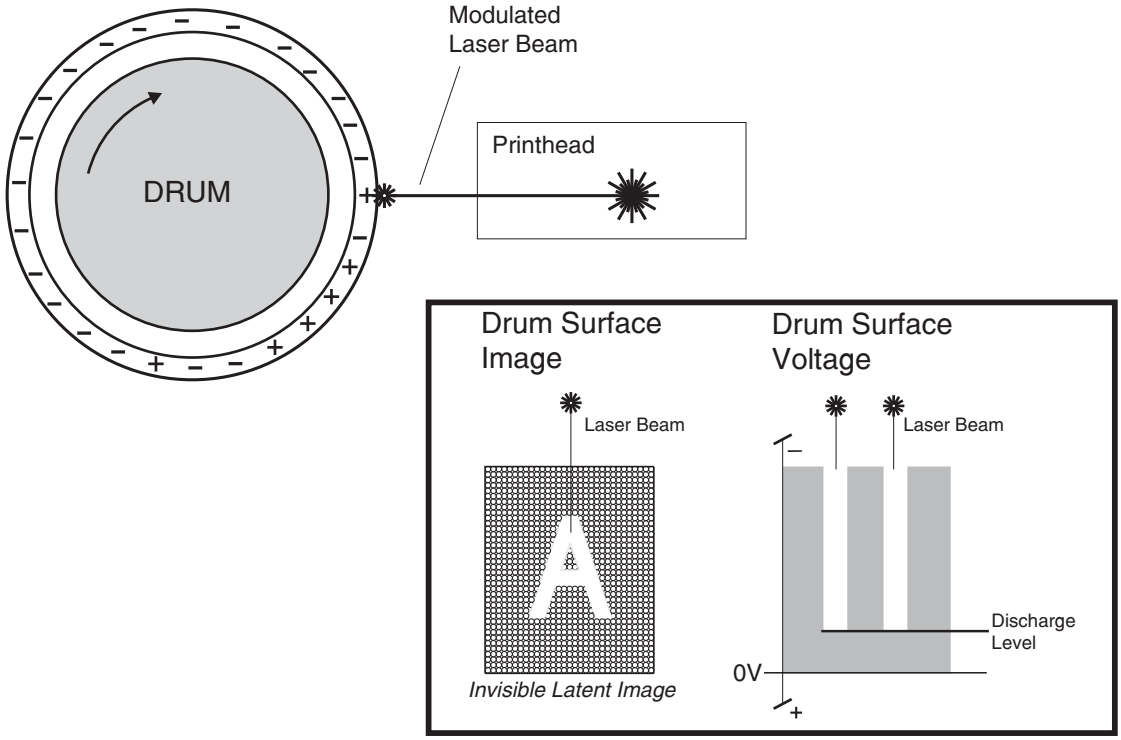


Exposure

The Printhead generates a beam of laser light. Image data received from the system card assembly modulates this beam, turning it on and off according to image information that is received from the host computer and software.

Through the use of a series of rotating and stationary mirrors within the Printhead, the beam scans the negative charged drum surface. Whenever the print controller sends a command to print a black pixel, the laser switches on long enough to shine onto the drum at a single pixel point. That point is now discharged and slightly less negative than the surrounding negative charge. The less negative areas are considered positive.

This discharge/no discharge process creates an invisible, electrostatic image on the surface of the drum. This image is called a **latent** image.



Development

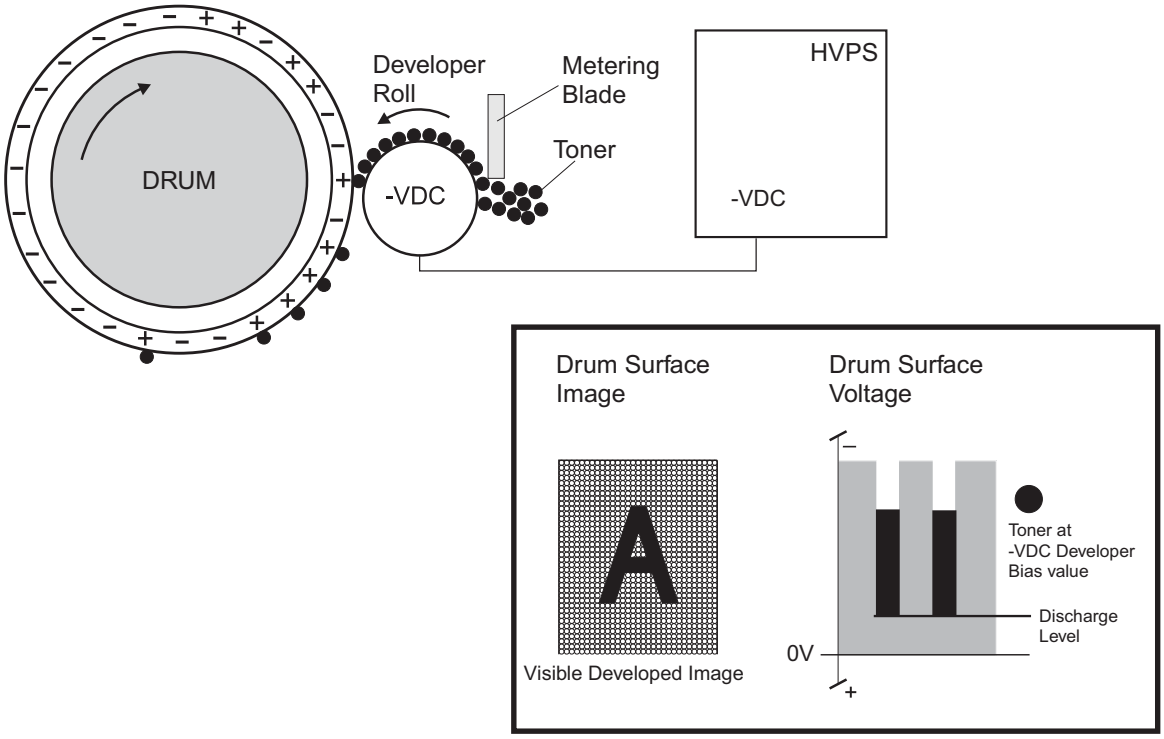
The toner contained within the PC Cartridge has an electrical property that causes it to adhere to the development roll. The Metering Blade spreads the toner into a very thin layer on the development roll. Friction between the development roll and the CM Blade development roll generates a small electrical charge that is transferred to the toner.

The surface of the developer Roll is made up of a thin sheet of conductive material. The HVPS supplies the development Roll with two voltages: a DC voltage and an AC voltage. The DC voltage is used to transfer toner from the development roll to the surface of the drum. The AC voltage agitates the toner on the development roll, making toner transfer easier.

The development roll maintains a negative DC electrical potential. Negative charged areas of the drum have a lower electrical potential, or higher relative negative value than the development roll. Discharged areas of the drum have a higher electrical potential, or lower relative negative value, than the development roll. A discharged point on the surface of the drum now appears less negative in relation to the negative charge on the development roll.

The toner adhering to the development Roll is always in contact with the drum surface. When a less negative point on the drum (a discharged area) comes in contact with the more negative charged toner on the Magnet

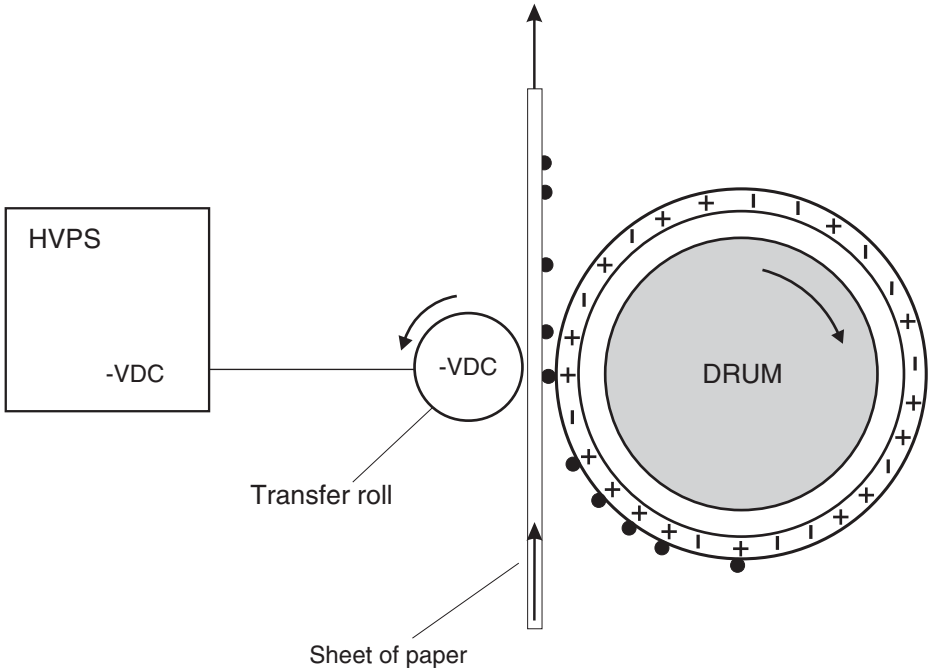
Roll, toner transfers from the Magnet Roll to that point on the drum. There is now a visible toner image on the drum surface. The image is called a *developed* image.



Transfer

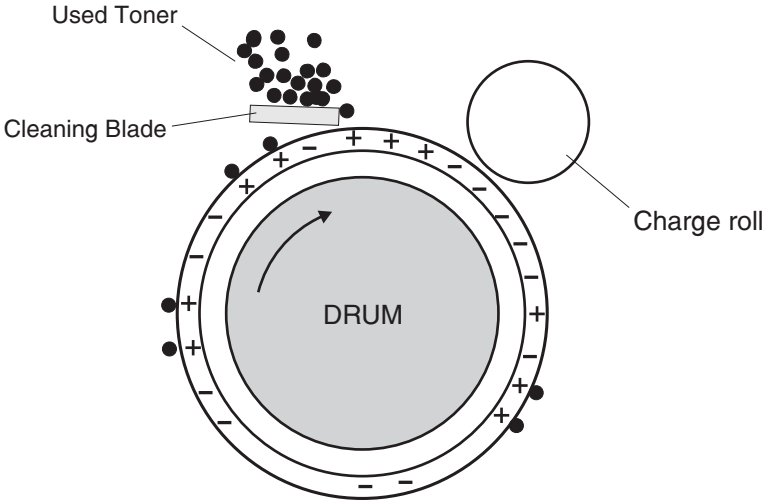
As the paper travels between the transfer Roll and the photoconductor (drum), the Transfer Roll applies a positive charge to the back of the printing paper. This positive charge transfers the negative charged toner image from the photoconductor (drum) to the top surface of the paper. The toner image is now on the paper and the paper is now stuck to the photoconductor (drum) due to the relative electrical differences between the

negative electrical charge of the inner conductive layer of the drum and the positive electrical charge of the paper.

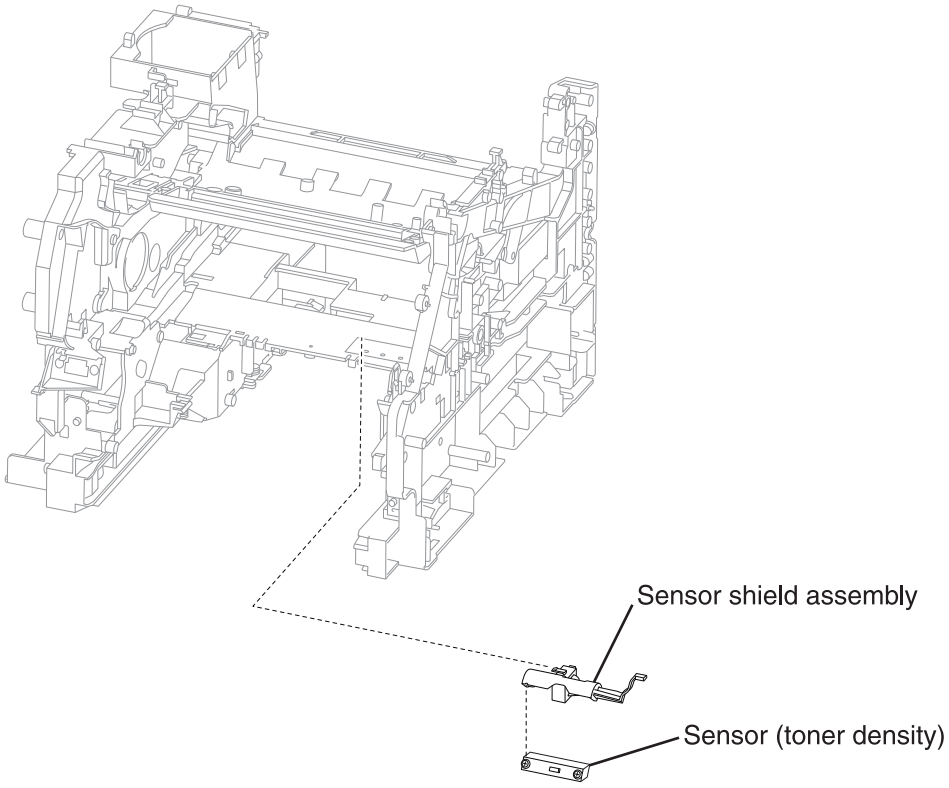


Cleaning

The Cleaning Blade removes any toner that remains on the drum after the transfer process. The toner that the Cleaning Blade removes is collected inside the sealed PC Cartridge.



Auto density sensing



The image density sensor assembly uses a reflection type sensor that detects a pre-placed toner patch and image on the photoconductor (drum) and outputs pulses when the central line of the patch image aligns with the central line of the detector. The sensor outputs pulses at the timing the patch image passes the sensor. Therefore, observing changes of intervals at which pulses are output leads to toner density detection.

Document scanning at ADF

The document scanning section of this machine consists of a scanner that reads a single-sheet document placed on the platen glass and a document feeder that can transport a multiple-sheet document for one or two-sided scanning.

Document scanning at platen

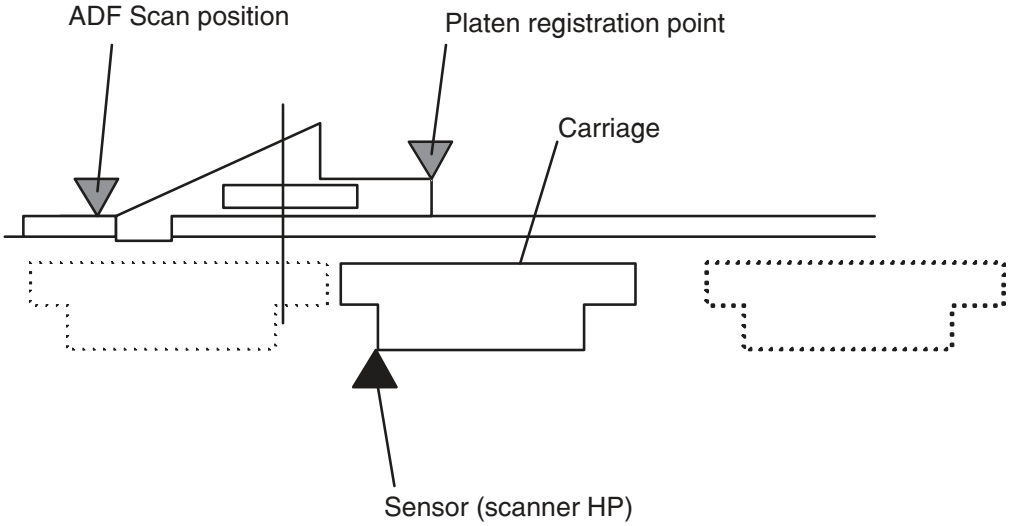
Shown below is the operational overview of document scanning at the platen.

The scanner CCD assembly travels to read the document.

The exposure lamp is installed on the scanner CCD assembly. As the scanner CCD assembly travels, the document on the platen glass is scanned and exposed with the exposure lamp.

The image data is read with the scanner CCD image sensor assembly.

This ADF employs a constant velocity transport system that scans images by feeding the document at a constant speed over the specified position (scan position) where the carriage of the scanner unit assembly is fixed.



Names and functions of components

The sections below describe the functions of main components of the scanner.

Scanner unit assembly

Sensor (FB length APS 1), Sensor (FB length APS 2), Sensor (FB length APS 3)

The document length in the slow scanning direction is detected by a combination of the three reflector sensors.

Switch (ADF closed interlock)

A switch that detects whether the ADF is open and determines the timing of platen document size detection.

Scanner drive motor assembly

A stepping motor that drives the scanner CCD assembly.

Sensor (FB scanner HP)

A sensor that detects the HP position of the flatbed scanner CCD assembly.

Scanner exposure lamp

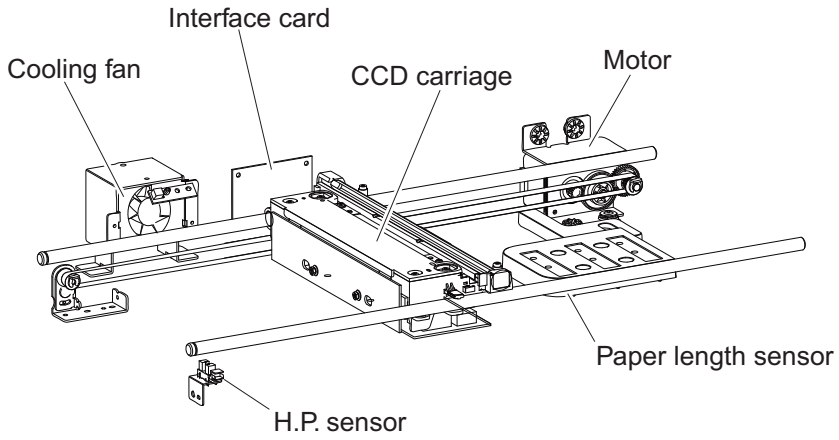
A xenon lamp to which the document is exposed.

Scanner controller card assembly

A card that controls the scanner section.

Scanner cooling fan

A fan that prevents overheating of the scanner controller card assembly and exposure lamp.



A document sheet set in the document tray assembly is fed through the ADF feed roll, ADF pick roll, and ADF separation roll assembly. The document image is scanned at the scan position, and the document sheet is ejected through the ADF feed-out roll assembly and the ADF exit roll assembly. For a duplex document sheet, the image on side 1 and the image on side 2 are scanned at the same time in the same pass.

Described below is the overview of the steps before document scanning and that of simplex and duplex document scanning modes.

Setting a document

When a document is set on the document tray assembly and the lead edge is pushed into the tray until it stops, the ADF document set actuator moves to place the sensor (ADF document set) in the unshielded (unblocked) state. Then the machine recognizes that the document has been set properly, turning on the document set LED.

Preparation for feed

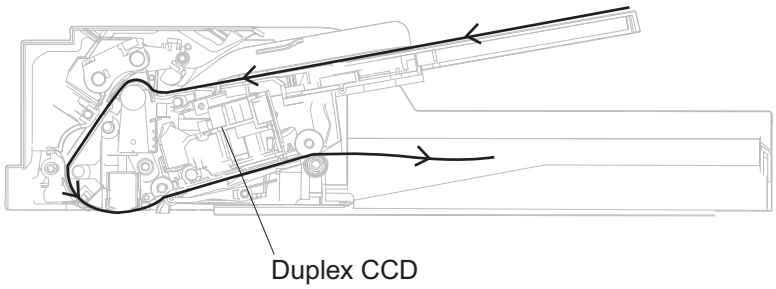
Pressing the start button with the document set in the document tray will start feeding the document.

First the pick roll moves down and presses the document on the document tray to enable document feed.

The pick roll moves down with the normal rotation of the ADF feed drive motor assembly and it moves up with the reverse rotation of the ADF feed drive motor assembly.

Upon completion of document feed, the pick roll returns to the normal (raised) position.

Shown below is the document feed path from the ADF.



Simplex and duplex document feed

For two simplex document sheets, feed is performed in the following sequence:

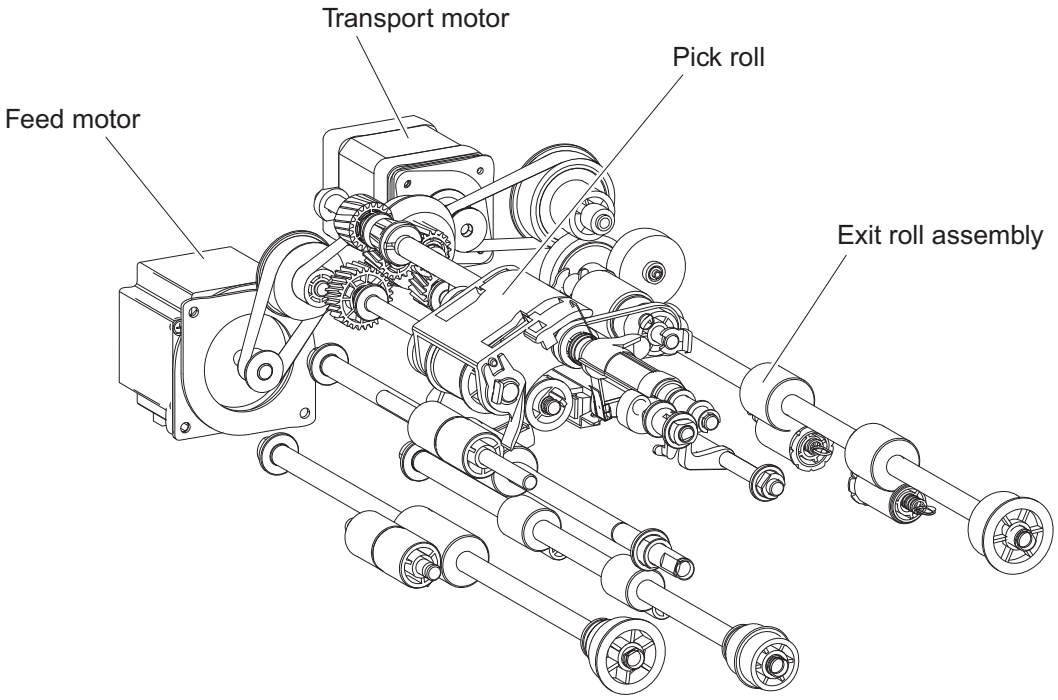
1. The first document sheet is fed to the ADF transport roll assembly.
2. The document is fed to the ADF registration roll assembly, and then fed to the scan feed reference position.
3. The document sheet is fed at the feed speed corresponding to the selected magnification, and the image on it is scanned with the exposure lamp at the scan position.
4. As the image is scanned, the document sheet is fed and ejected by the ADF feed-out roll assembly and ADF exit roll assembly that are driven by the ADF transport motor.
5. When the trail edge of the first document sheet has passed through the sensor (sheet through), the feed of the second document sheet starts.

Duplex document

For duplex document sheets, feed is performed in the following sequence:

1. The first document sheet is fed to the ADF transport roll assembly.
2. The document is fed to the ADF registration roll assembly, and then fed to the scan feed reference position.
3. The document sheet is fed at the feed speed corresponding to the selected magnification, and the image on it is scanned with the exposure lamp at the scan position.

4. As the image is scanned on both sides, the document sheet is fed and ejected by the ADF feed-out roll assembly and ADF exit roll assembly that are driven by the ADF transport motor.



Names and functions of components

ADF

Sensor (ADF long media)

The document length in the slow scanning direction is detected by this sensor.

Sensor (ADF width 1), Sensor (ADF width 2), Sensor (ADF width 3), Sensor (ADF width 3)

The document length in the fast scanning direction is detected by the combination of these three sensors detecting the position of the tray on which the document is set.

Sensor (ADF document set)

A sensor that detects the presence or absence of a document on the ADF document tray.

ADF Document Set LED

An LED that illuminates when a document is set on the ADF Document Tray.

Switch (ADF top door interlock)

A switch that detects whether the ADF top door assembly is open.

ADF controller card assembly

A card that controls the ADF unit assembly. The ADF controller card assembly is connected to and controlled by the Scanner controller card assembly.

Sensor (ADF sheet through)

The ADF sensor (ADF sheet through) is installed immediately downstream from the Feed/pick roll assembly to detect completion of document feed.

Sensor (ADF 1st scan)

The ADF sensor (ADF 1st scan) is installed just upstream of the scanning surface and is used to for scanning timing operations.

Sensor (2nd scan)

The ADF sensor (ADF 1st scan) is installed just down stream of the scanning surface and is used to for scanning timing operations.

Sensor (ADF media exit)

The sensor (ADF media exit) is used to detect when scanned media has exited the ADF.

ADF feed motor assembly

The feed motor assembly is a stepping motor that rotates the pick roll and feed roll in the reverse direction (CCW direction) and rotates the ADF transport roll assembly in the normal direction (CW direction).

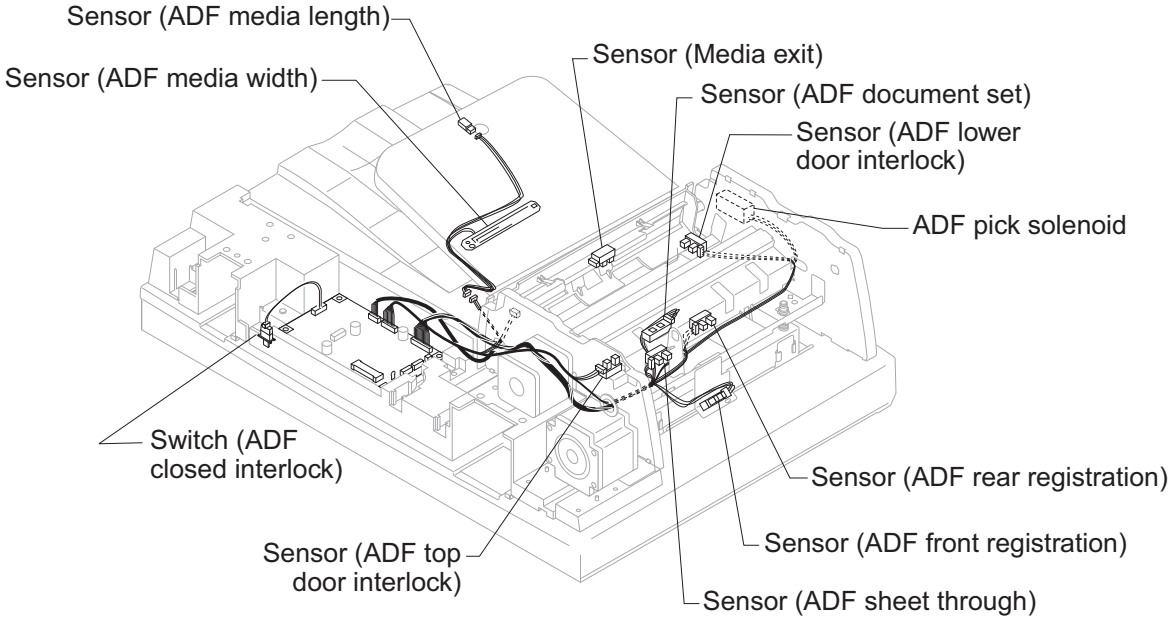
When this motor rotates in the reverse direction, the ADF transport roll assembly stops.

ADF transport motor

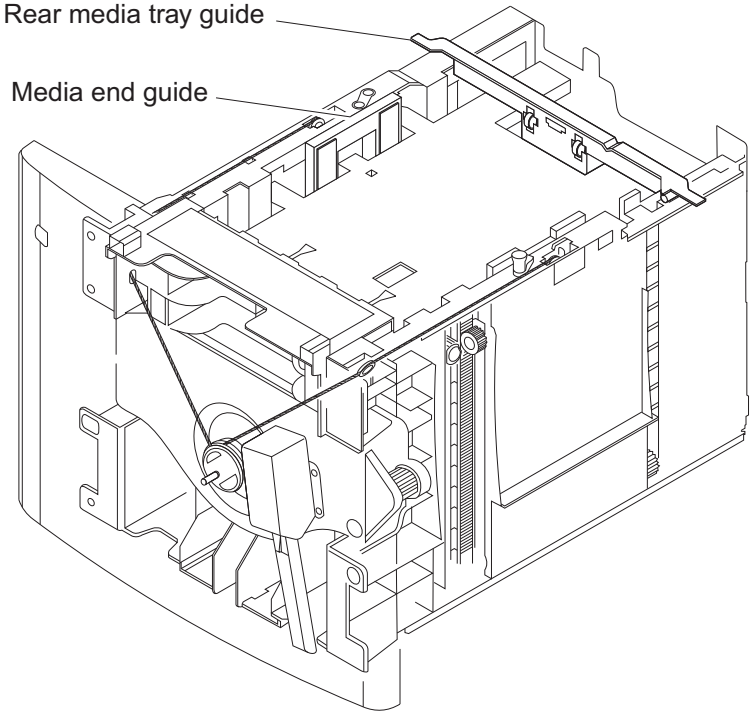
The ADF transport motor is a stepping motor that rotates the ADF registration roll assembly, ADF feed-out roll assembly, and ADF exit roll assembly.

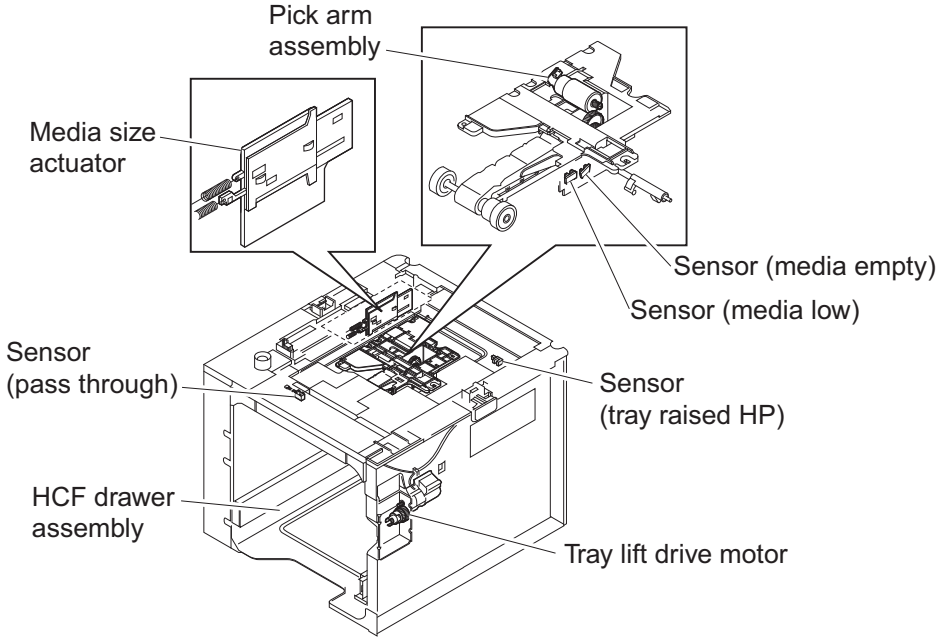
ADF pick solenoid assembly

This solenoid causes the ADF pick roll to be raised and lowered in order to properly pick the media.

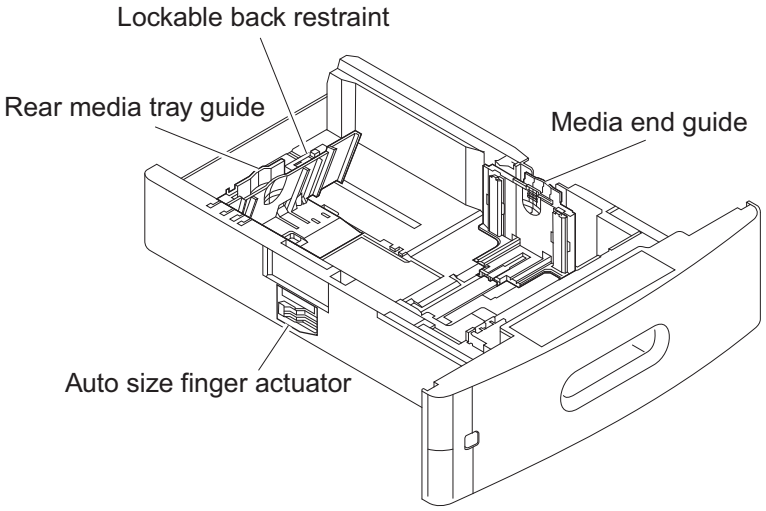


High Capacity Input Tray (HCIT) tray assembly





250-sheet/550-sheet tray assembly



Media size sensing

The media size set for the media tray assembly is set by positioning the right media guide, unlocking the slider lock, and sliding the rear paper guide. The rear paper guide triggers the movement of the auto size sensing finger, which then sets the switches of the controller card board. The combination of ON/OFF position of the three switches provides information of the media sizes to the engine.

Media size	SW 1	SW 2	SW 3
Unknown	OFF	OFF	OFF
A4	OFF	OFF	ON
Legal	OFF	ON	OFF
B5	OFF	ON	ON
A5	ON	OFF	OFF
Executive	ON	OFF	ON
Letter	ON	ON	OFF
Custom	ON	ON	ON

Note: Media size sensing through ON/OFF switch combination

Media level sensing

The media level for the media tray assembly is triggered by the actuator flag positioned in the two photointerrupter sensors in the pick arm bracket assembly. The actuator flag blocks and unblocks the two sensors in different sequence; it determines whether the paper tray is empty, low, or full.

250-sheet tray	Sensor A	Sensor B
Tray full	unblocked	unblocked
Tray low	blocked	unblocked
Tray empty	blocked	blocked

550-sheet tray	Sensor A	Sensor B
Tray full	unblocked	blocked
Tray low	blocked	blocked
Tray empty	blocked	unblocked

Note: Media level sensing through sensor blocking sequence

Pick motor

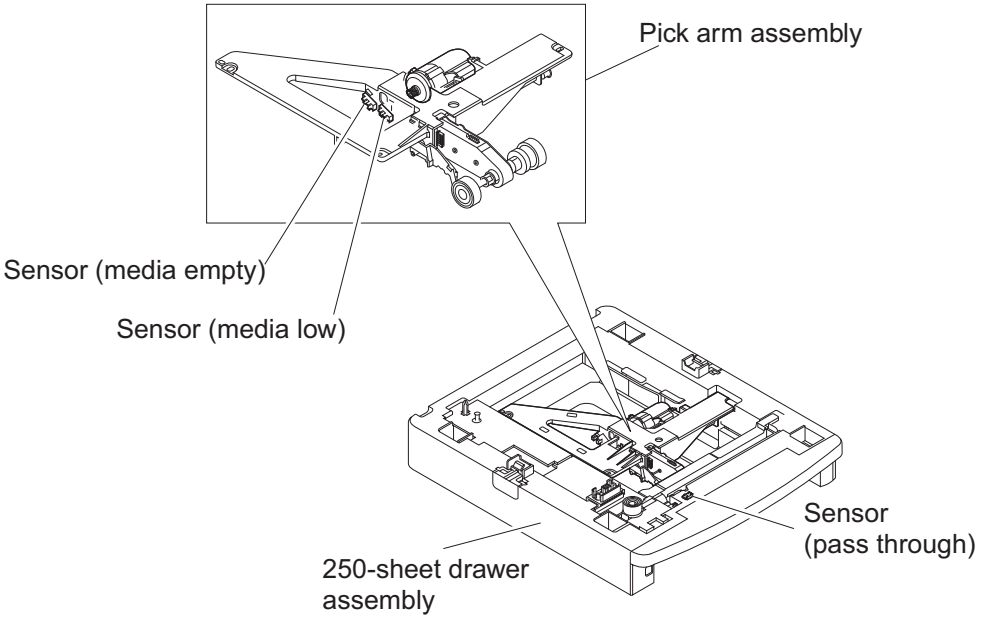
The pick motor is activated to provide downward force at the pick roll through the pick arm gear train.

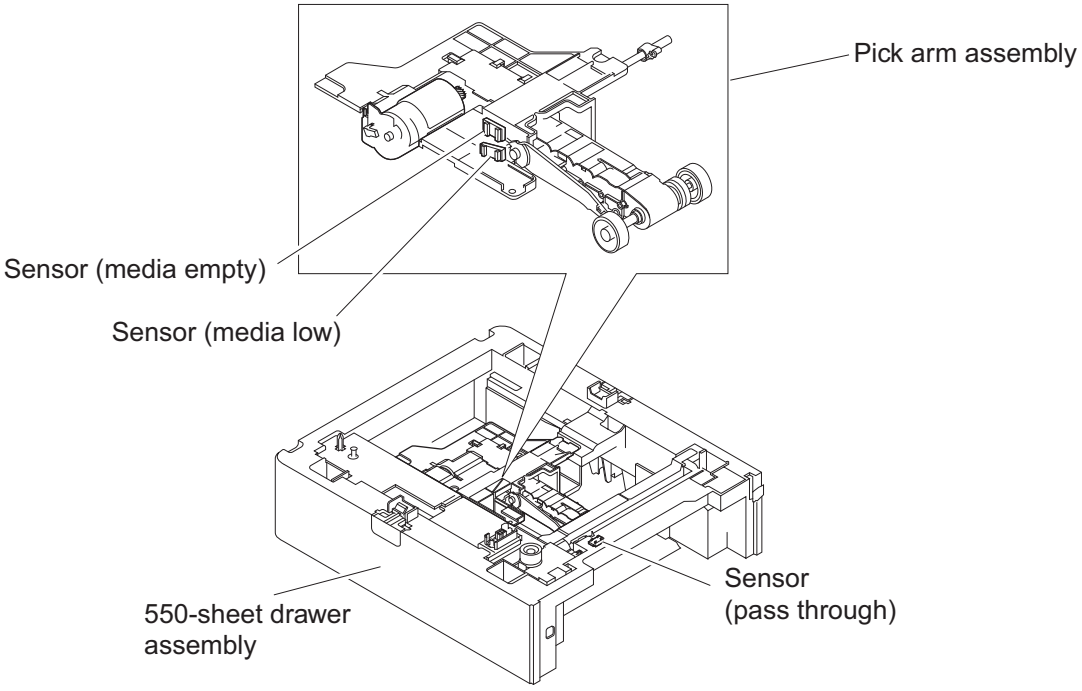
Sensor A & B

The photointerrupter sensors send signals to the engine; the media level status is empty, low, or full. An actuator flag triggers the sensor by blocking it.

Sensor (pass-thru)

A photointerrupter sensor with a built-in flag that sends a signal to the engine where the media from the input tray passes. This will trigger the pick arm to pick the next media.

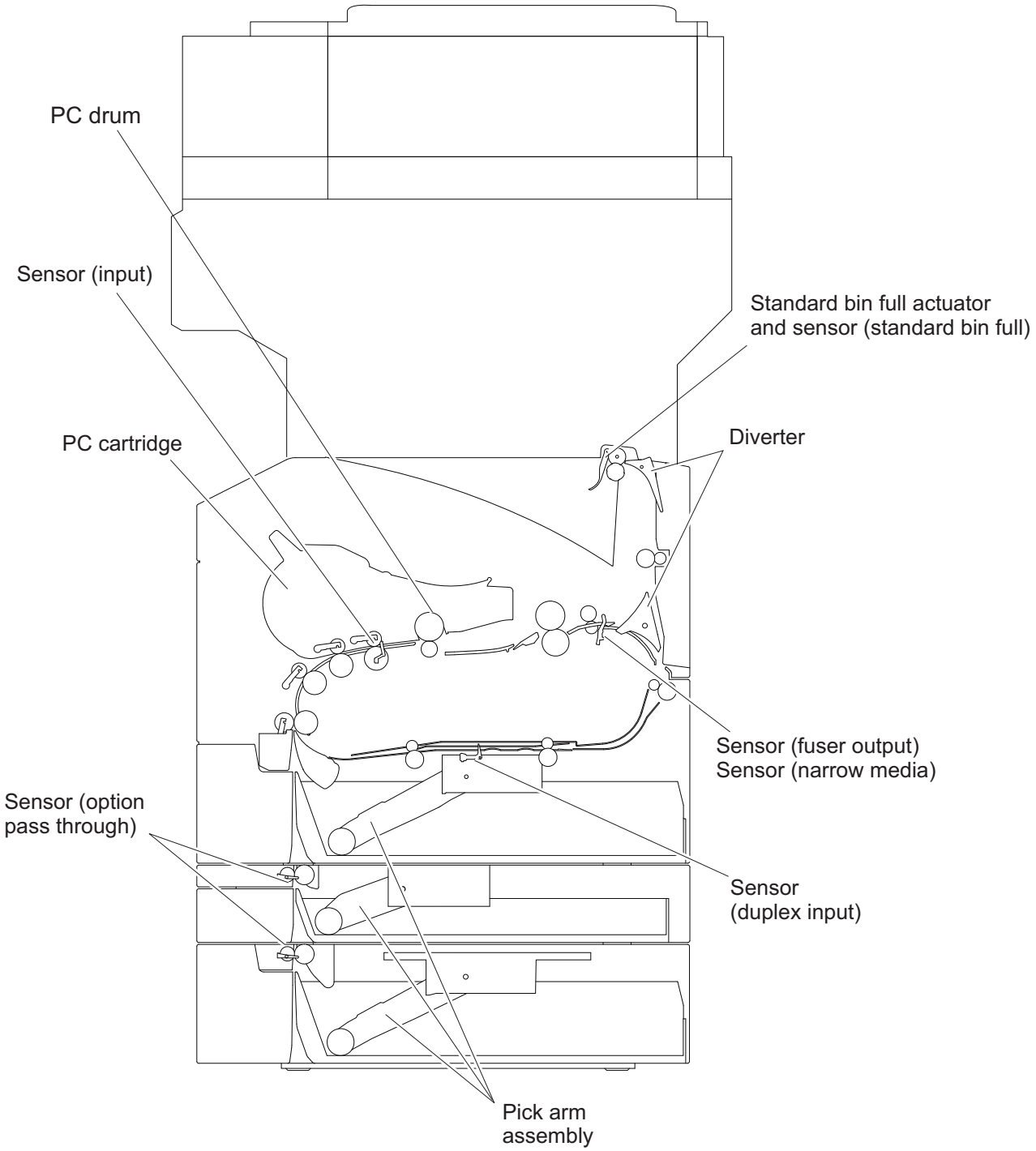

Pick arm assembly
Sensor (media empty)
Sensor (media low)
Sensor
(pass through)
250-sheet drawer
assembly


Pick arm assembly
Sensor (media empty)
Sensor (media low)
Sensor
(pass through)
550-sheet drawer
assembly

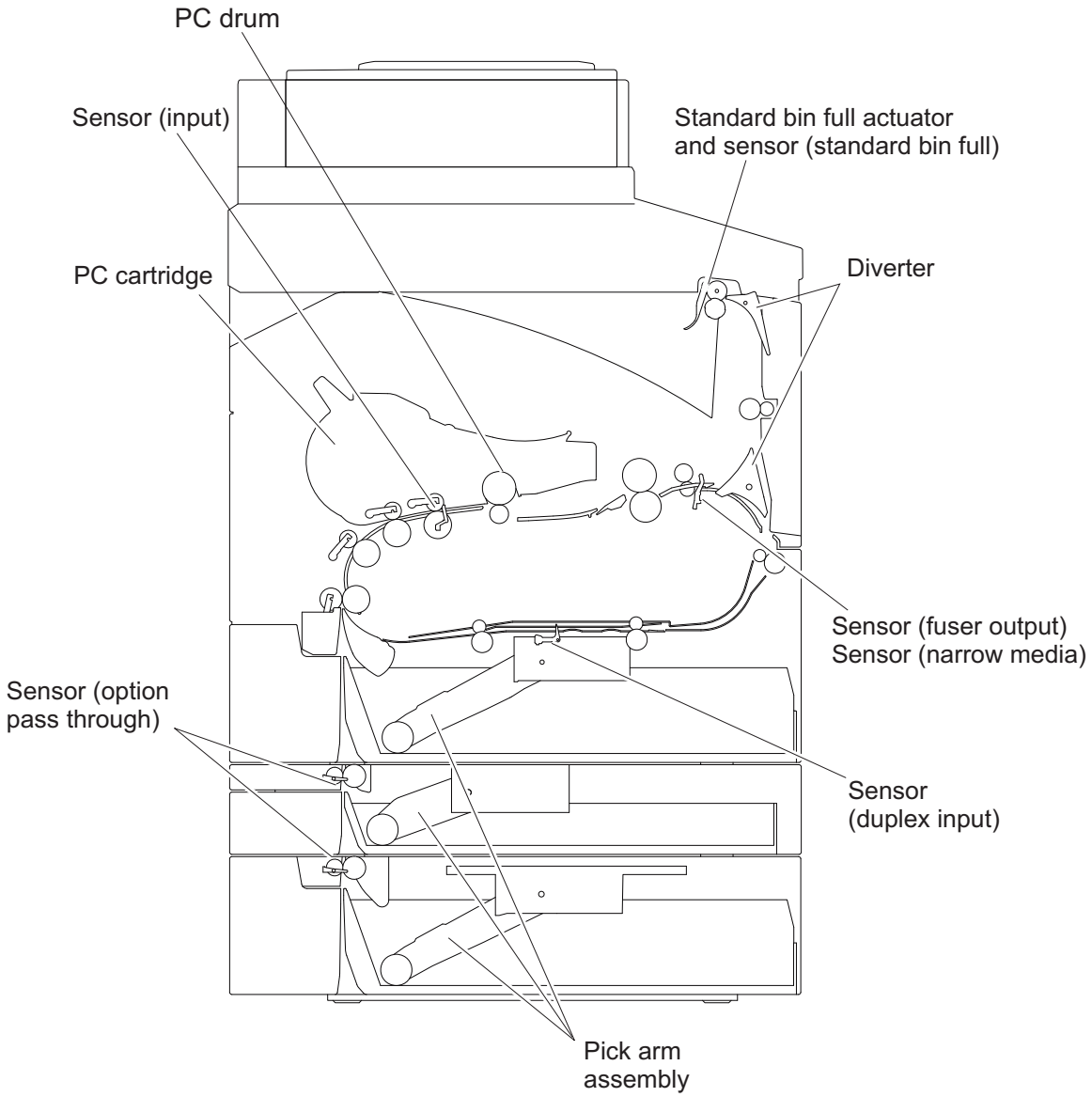
Media transport path

The following is a cross section of the printer and the tandem tray module, showing the main components directly associated with the media path and transport.

Models X651, X652/5535dn, X654, and X656 paper path rolls and sensors



Model X658 paper path rolls and sensors



Functions of main components

When the 250 or 550 sheet input trays are installed under the printer, additional trays are available.

Media tray assembly

It is necessary to adjust the media tray rear guide and media tray side guide of the media tray assembly to match the media size.

Rear media guide

The rear media tray guide assembly can be adjusted to different media sizes by moving it to the front or rear. The rear guide should come into contact with the media and hold it in position.

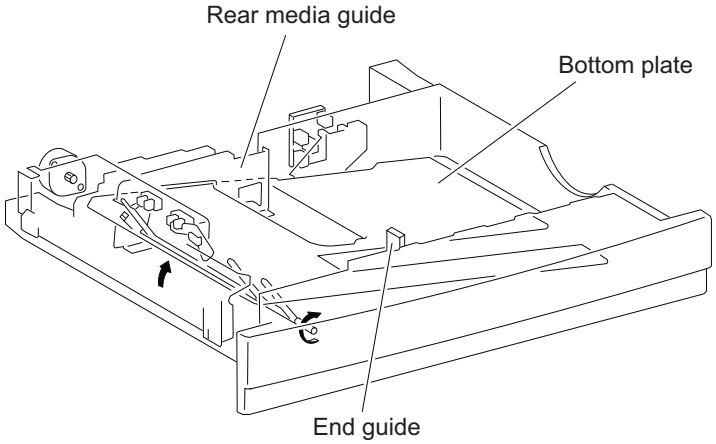
Side guide

The media tray assembly is designed so it can adapt to the media width in the media feed direction by moving the side guide to the left or right.

Wear strips

The wear strips are designed to provide a fixed resistance to ensure that a single piece of paper is properly fed out of the media tray. There are several types of wear strips available for custom or hard to feed media.

Media tray assembly



Detection of media size

The media size set for the media tray assembly is transmitted to the switch (media size) by moving these guides. The media size is detected by the on/off information of these switches.

Pick arm assembly

Since all media trays are functionally equivalent in terms of the switch (media size), sensor (media empty), sensor (media low), only the components of one tray are described here.

The pick arm assembly is a mechanical unit supplying media from the media tray assembly to the printer. The driving force, from the pick arm drive motor on the pick arm assembly, is transmitted to the two pick rolls to feed media.

When the pick rolls pick up media, the remaining media decreases, and the media out actuator will lower and interact with the sensor (media low) and sensor (media empty) to determine the amount of media remaining.

The pick arm assembly (autocompensator) is a paper pick device that generates its own normal force. This force generation is inherent in the fundamental design of the pick arm. If light media is used, it picks very gently. If a heavy media is used, it picks very aggressively. No customer adjustments are necessary, therefore no special trays are needed for card stock or labels. The gearing in the arm is designed so the input torque from the motor produces a movement about the pivot of the arm. This movement produces a downward force at the pick rolls. The friction between the pick roll and the paper produces a frictional locking condition. If the paper is physically held and not allowed to feed, then the motor stalls. Slippage between the roll and the paper is theoretically impossible. When the motor is energized, the pick rolls are driven down into the stack, increasing the normal force and drive force until the bending strength of the paper is overcome and the paper bends and moves up the wear strip.

Switch (media size)

This switch (media size) sets the size of media supplied from each media tray assembly. A signal indicating the media size is transmitted as a voltage to the printer system card assembly.

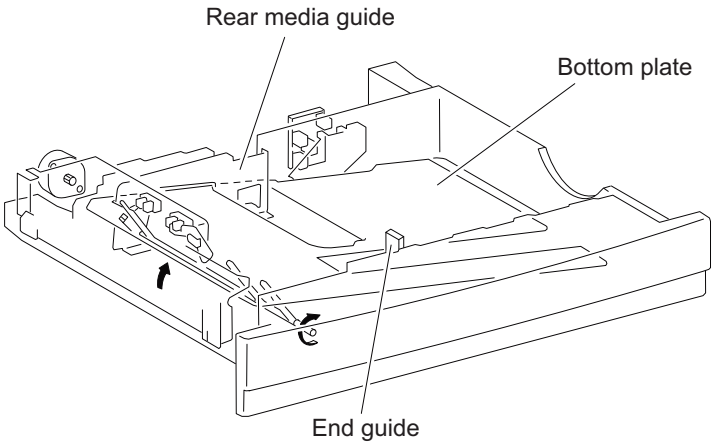
Sensor (media empty)

If media runs out in a media tray assembly, the actuator lowers and the actuator flag, unlocks the sensing area of the sensor (media empty). The sensor light is transmitted. When the sensing area is blocked (media is present), the signal is off.

Sensor (media low)

This sensor detects by the actuator position whether media in the media tray assembly is low. When the flag of the actuator blocks, then unblocks the sensing area of the sensor (media low), the media level is determined to be low

Tray 2 media tray assembly



Note:

Media Size	Analog switch	
	S/W1	S/W3
No Tray	Off	Off
B5L/7.25” x 10.5”L	Off	On
8.5” x 11”L	On	Off
A4L	On	On

Duplex

Functions of main components

When the duplex is installed, duplex (double-sided) printing is available with the printer.

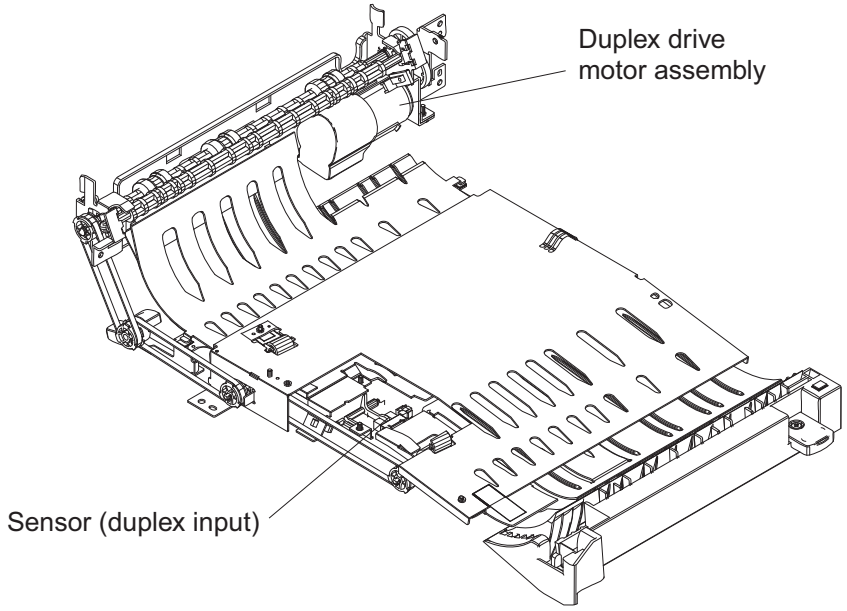
The following outlines the functions of the main components of the duplex.

Sensor (duplex input)

The sensor (duplex wait) detects whether media is remaining in the duplex.

Duplex drive motor assembly

The duplex drive motor assembly transmits driving force to the two duplex media transport roll assemblies and the duplex media center transport roll assembly middle that feeds media.

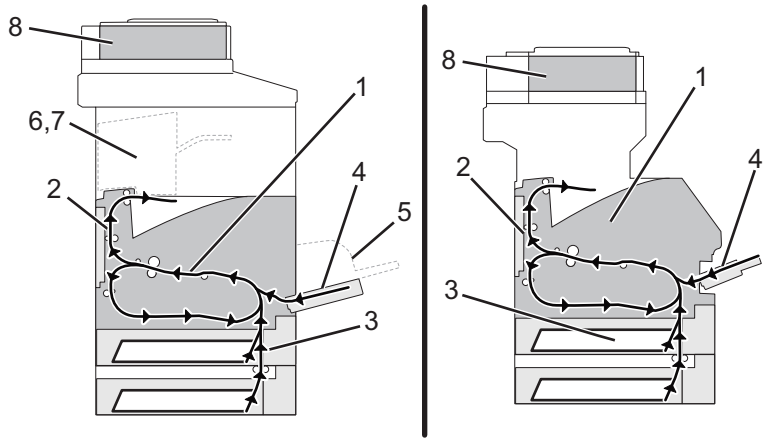


Paper jams

Understanding jam numbers and locations

When a jam occurs, a message indicating the jam location appears. Open doors and covers and remove trays to access jam locations. To resolve any paper jam message, you must clear all jammed paper from the paper path.

The following table lists the jams that can occur and the location of each jam:

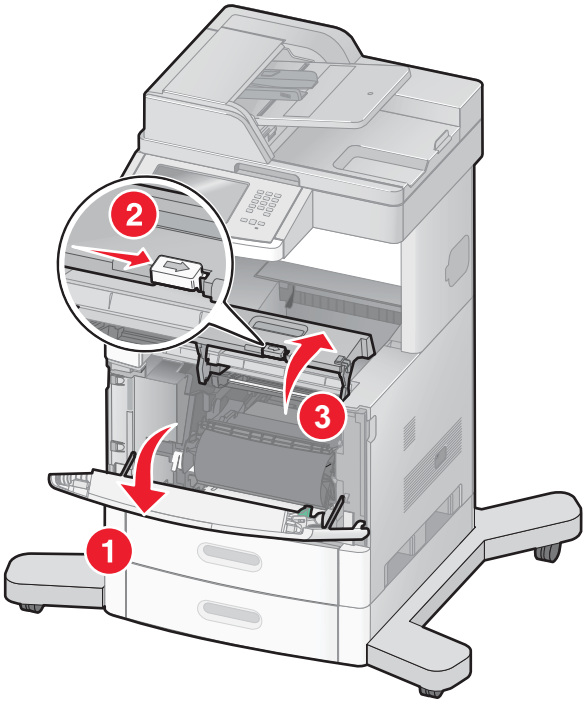


	Jam numbers	Area
1	200–203	Printer
2	230–239	Duplex unit
3	240–245	Paper tray
4	250	Multipurpose feeder
5	260	Envelope feeder
6	270–279	Optional output bin
7	28x	Stapler
8	290–294	ADF cover

200 and 203 paper jams

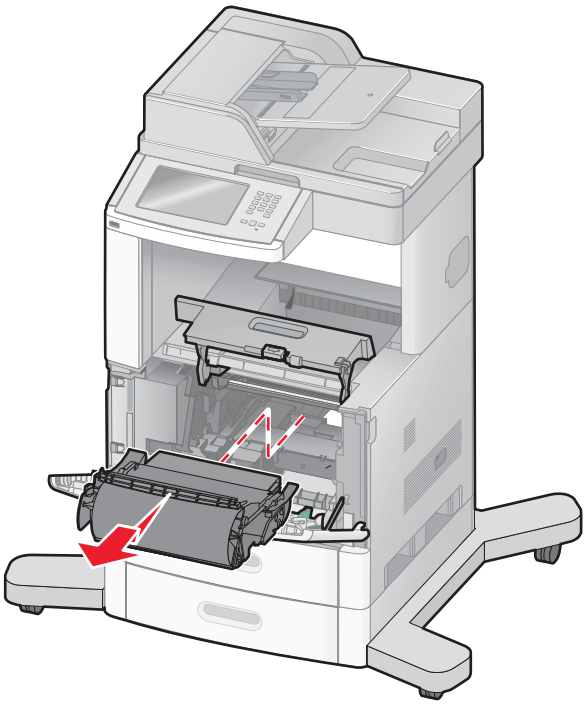
1. Touch **Status/Supplies** to identify the location of the jam.
2. Lower the multipurpose feeder door.

3. Push the release latch, and then open the front cover.



4. Lift and pull the print cartridge out of the printer.

Warning: Do not touch the photoconductor drum on the underside of the cartridge. Use the cartridge handle whenever you are holding the cartridge.



5. Place the print cartridge aside.

Warning: Do not leave the cartridge exposed to light for extended periods.

Warning: The jammed paper may be covered with unfused toner which can stain garments and skin.

6. Remove the jammed paper.

CAUTION: The inside of the printer might be hot. To reduce the risk of injury from a hot component, allow the surface to cool before touching.

Note: If the paper is not easy to remove, then open the rear door and remove the paper from there.

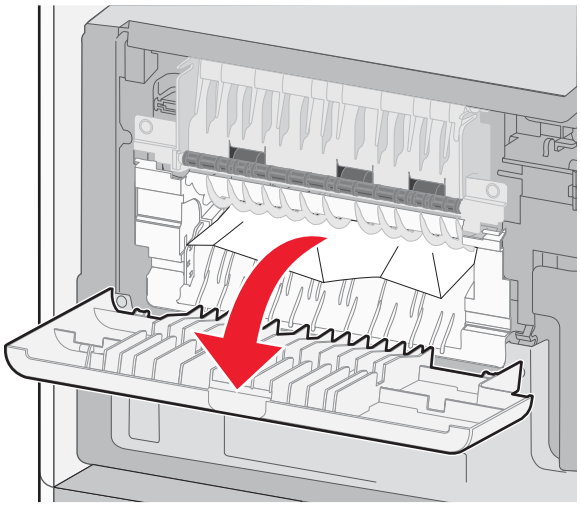
7. Align and reinstall the print cartridge.
8. Close the front cover.
9. Close the multipurpose feeder door.
10. Touch **Continue**.

202 paper jam

Touch **Status/Supplies** to identify the location of the jam. If the paper is exiting the printer, then pull the paper out, and then touch **Continue**.

If the paper is not exiting the printer:

1. Pull down the top rear door.

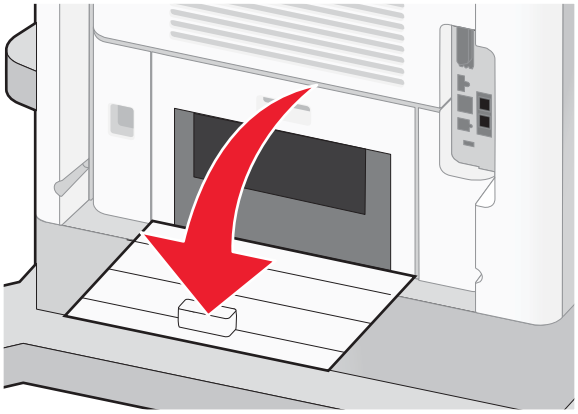


2. Remove the jammed paper.
3. Close the top rear door.
4. Touch **Continue**.

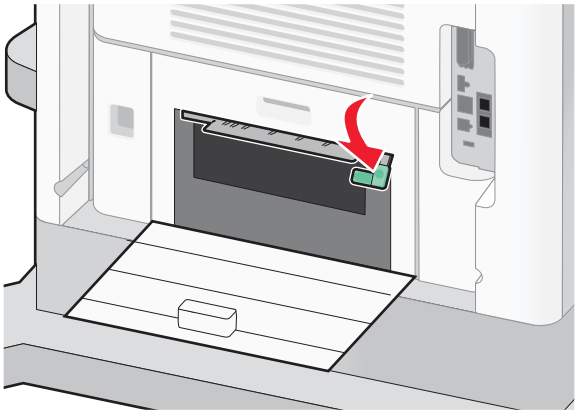
230–239 paper jams

1. Touch **Status/Supplies** to identify the location of the jam.
2. Pull the standard tray out.

3. Pull down the bottom rear door.



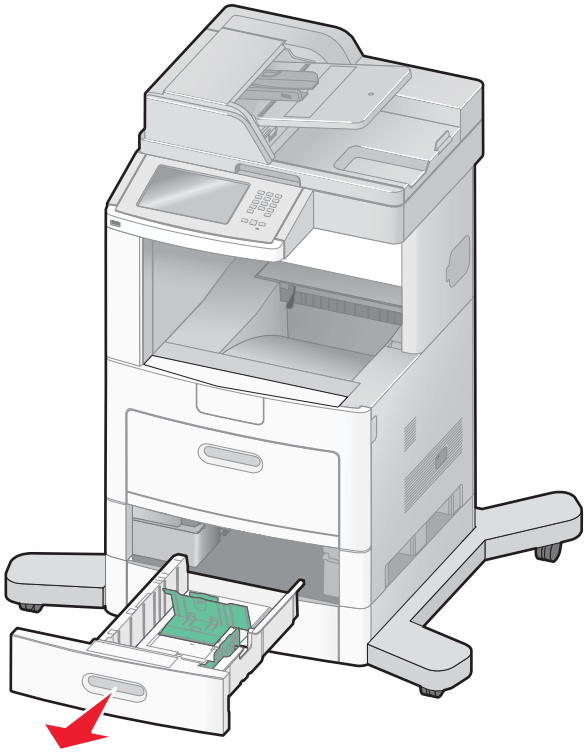
4. Push the tab down.



5. Remove the jammed paper.
6. Close the bottom rear door.
7. Insert the standard tray.
8. Touch **Continue**.

240–245 paper jams

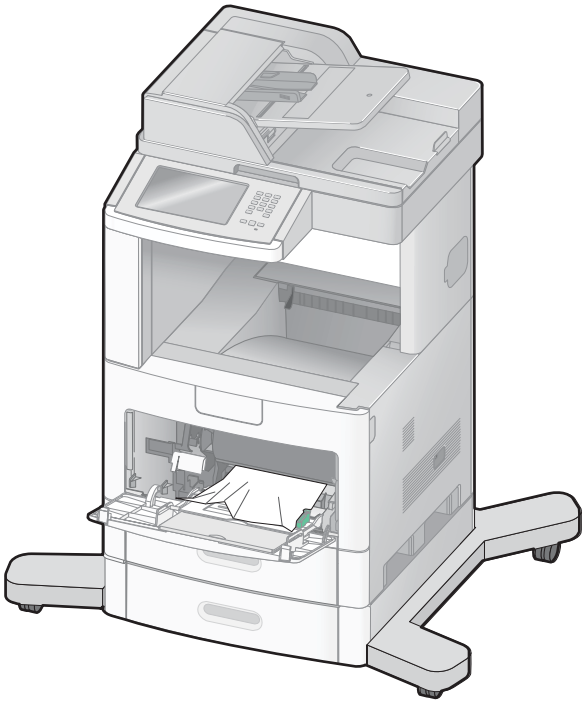
1. Touch **Status/Supplies** to identify the location of the jam.
2. Pull the standard tray out.



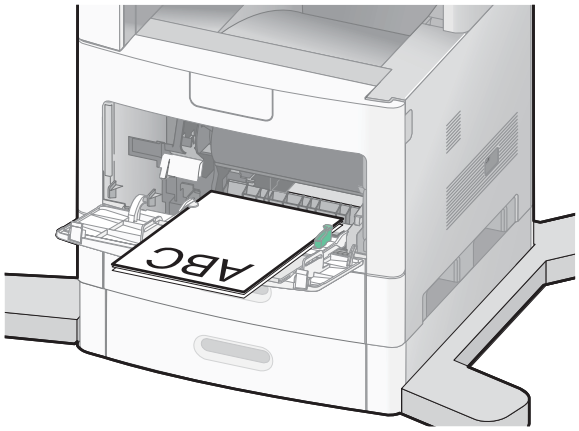
3. Remove any jammed paper, and then close the tray.
4. Touch **Continue**.
5. If the jam message remains, then pull out any optional trays.
6. Remove the jammed paper, and then insert the trays.
7. Touch **Continue**.

250 paper jam

1. Touch **Status/Supplies** to identify the location of the jam.
2. Remove the paper from the multipurpose feeder.



3. Flex the sheets of paper back and forth to loosen them, and then fan them. Do not fold or crease the paper. Straighten the edges on a level surface.
4. Load the paper into the multipurpose feeder.
5. Slide the paper guide toward the inside of the tray until it lightly rests against the edge of the paper.



6. Touch **Continue**.

260 paper jam

Touch **Status/Supplies** to identify the location of the jam. The envelope feeder feeds envelopes from the bottom of the stack; the bottom envelope will be the one that is jammed.

1. Lift the envelope weight.
2. Remove all envelopes.

3. If the jammed envelope has entered the printer and cannot be pulled out, then lift the envelope feeder up and then out of the printer, and then set it aside.
4. Remove the envelope from the printer.

Note: If you cannot remove the envelope, then the print cartridge will have to be removed. For more information, see **"200 and 203 paper jams" on page 3-83**.

5. Reinstall the envelope feeder. Make sure it *snaps* into place.
6. Flex and stack the envelopes.
7. Load the envelopes in the envelope feeder.
8. Adjust the paper guide.
9. Lower the envelope weight.
10. Touch **Continue**.

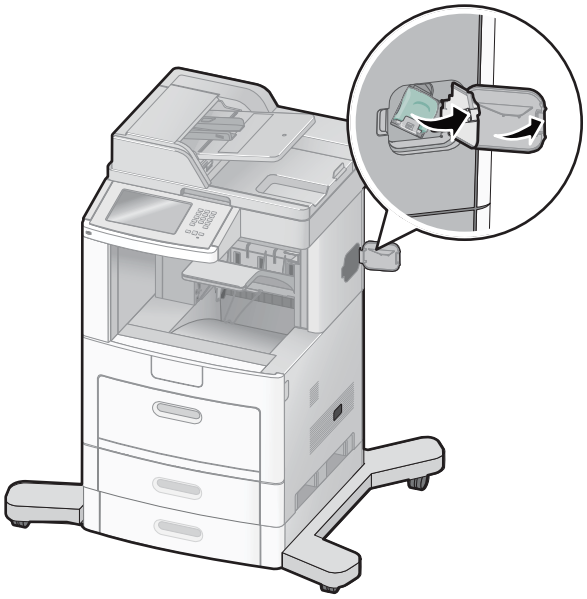
270–279 paper jams

To clear a jam in the high-capacity output stacker or the 4-bin mailbox:

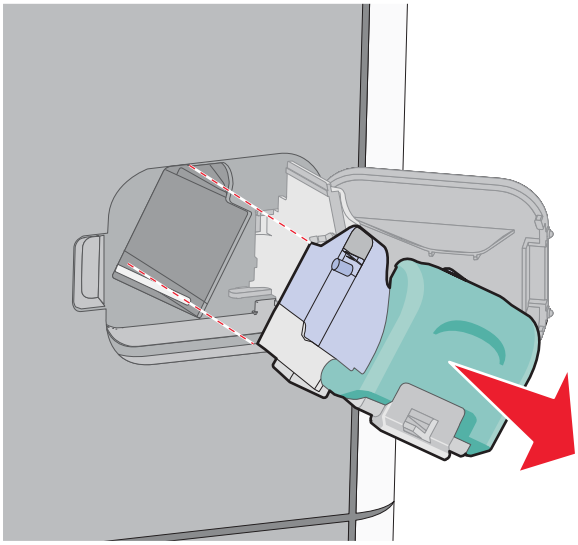
1. Touch **Status/Supplies** to identify the location of the jam.
2. If the paper is exiting into a bin, then pull the paper straight out, and then touch **Continue**. If not, then continue with step 3.
3. Pull down the output bin door or doors.
4. Remove the jammed paper.
5. Close the output bin door or doors.
6. Touch **Continue**.

28X staple jams

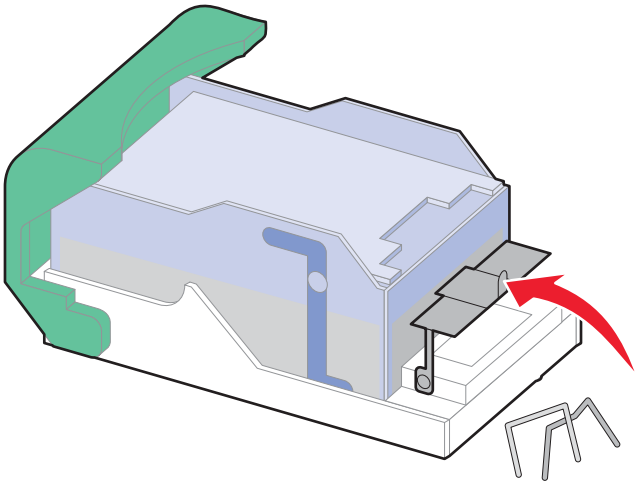
1. Touch **Status/Supplies** to identify the location of the jam.
2. Press the latch to open the stapler door.



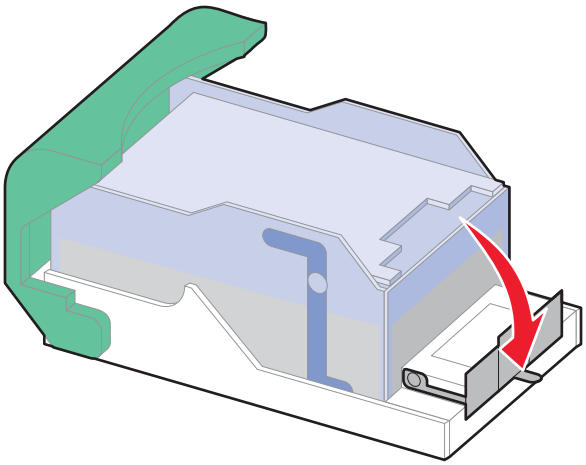
3. Pull the latch of the staple cartridge holder down, and then pull the holder out of the printer.



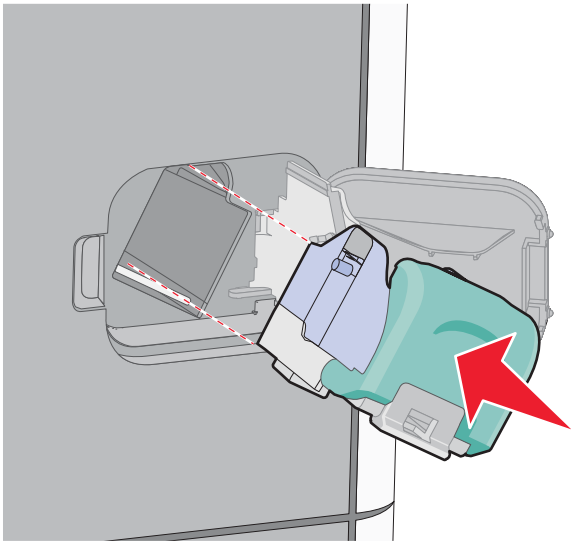
4. Use the metal tab to lift the staple guard, and then remove any loose staples.



5. Close the staple guard.



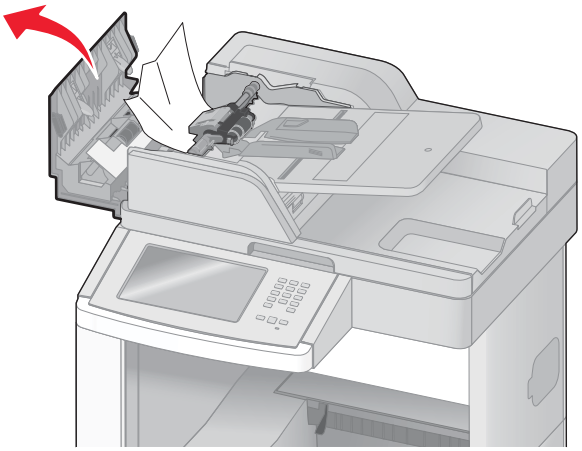
6. Press down on the staple guard until it *snaps* into place.



7. Push the cartridge holder firmly back into the stapler unit until the cartridge holder *clicks* into place.
8. Close the stapler door.

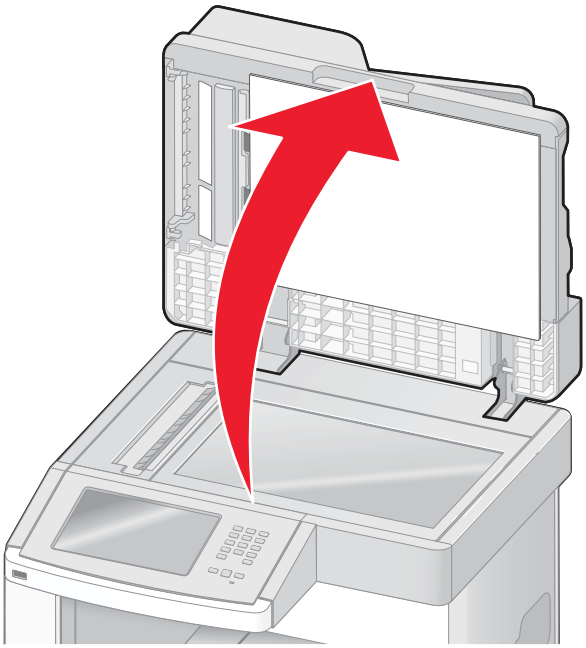
290–294 paper jams

1. Remove all original documents from the ADF.
2. Open the ADF cover, and then remove any jammed paper.

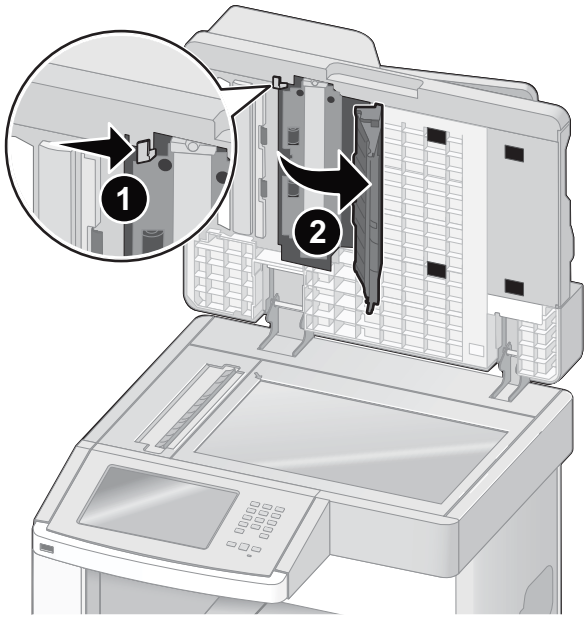


3. Close the ADF cover.

4. Open the scanner cover, and then remove any jammed pages.



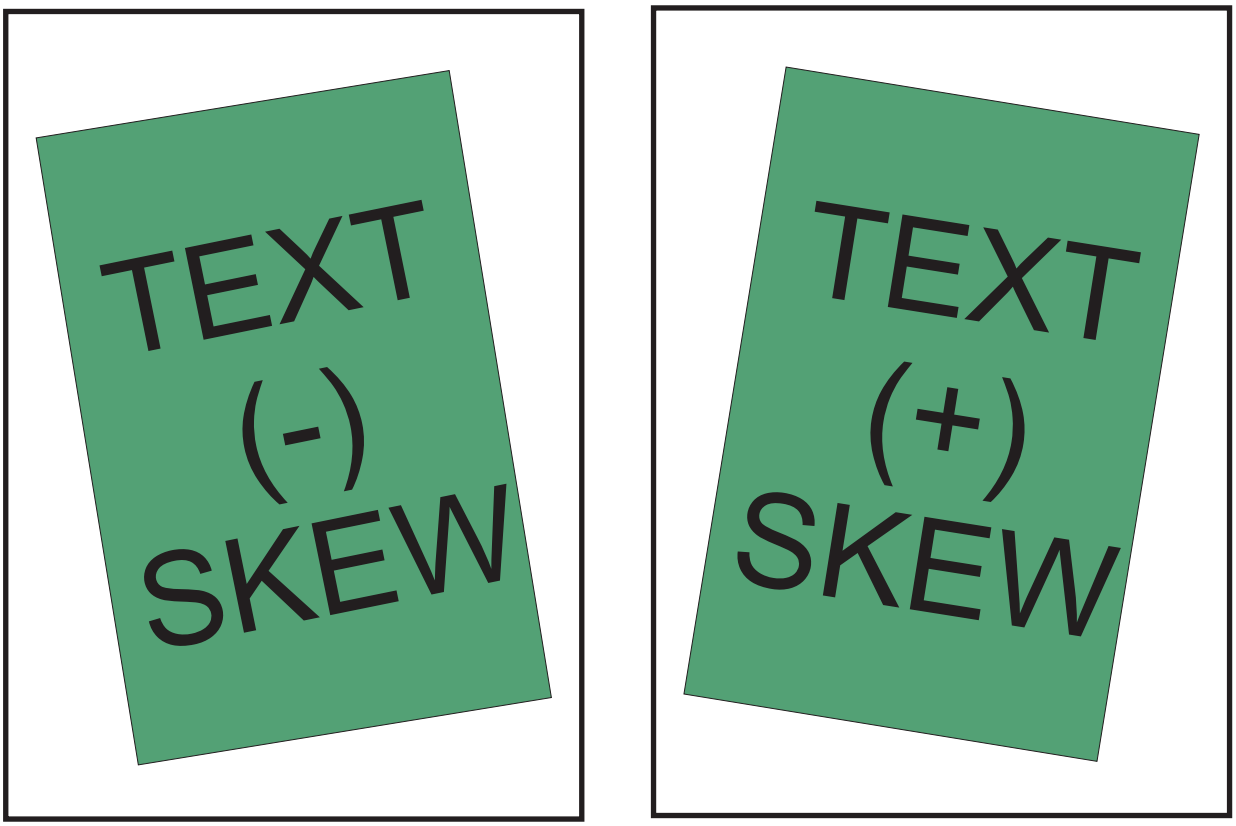
5. Open the bottom ADF door, and then remove any jammed pages.



6. Close the bottom ADF door and scanner cover.
7. Touch **Restart Job**.

Adjusting skew

For flatbed scanner and ADF skew adjustment, refer to the examples below to identify if “negative” or “positive” skew is present; this will help with determining the correct adjustment to be made.



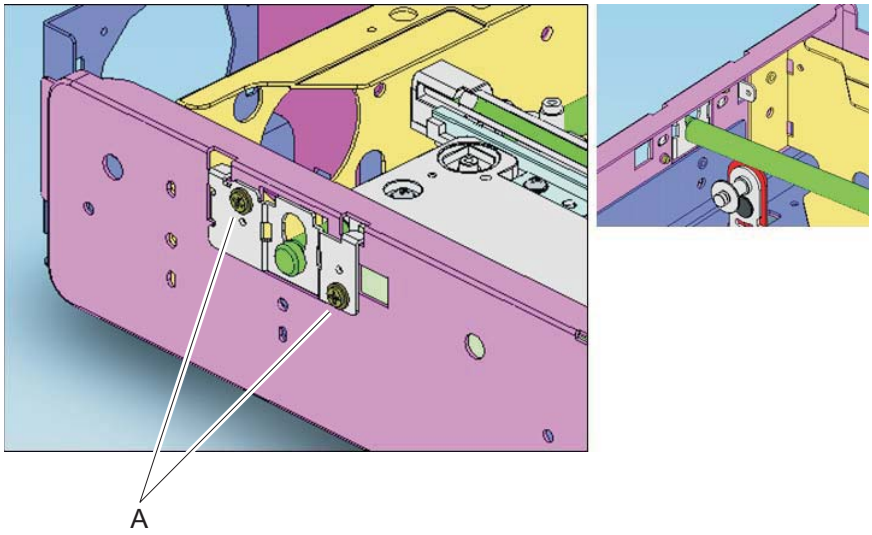
Acceptable ADF and flatbed scanner specifications

Scan
Flatbed (LE, TE, left & right edges) = +/- 0.5% (or +/- 0.005mm/mm)
ADF simplex and duplex (LE, TE, left & right edges) = +/- 0.75%

Copy
Flatbed, ADF simplex and duplex (LE, TE, left & right edges) = +/- 0.75%

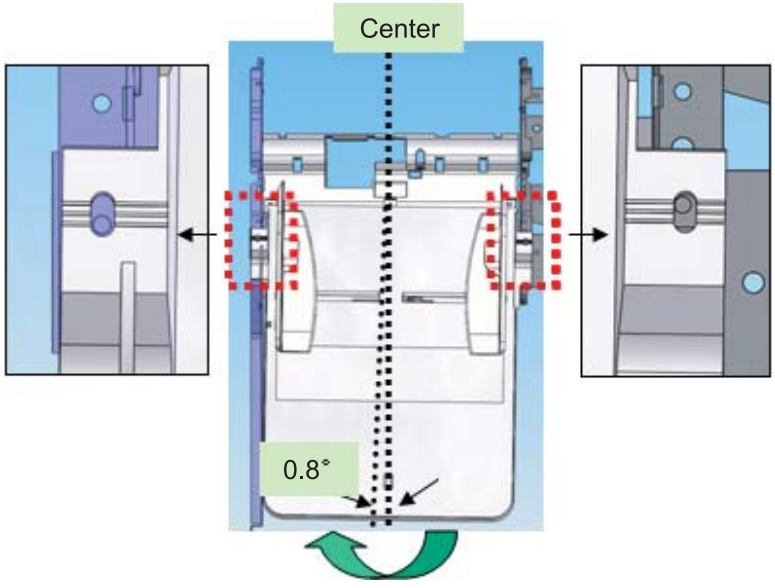
Flatbed scanner skew adjustment

1. Remove the scanner cover, left. Go to **"Scanner cover, left removal (models X651, X652/5535dn, X654, and X656)" on page 4-134** or **"Scanner cover, left removal (model X658)" on page 4-135**.
2. To adjust flatbed scanner skew, loosen the screws (A) and slide the scanner rod mounting plate left or right accordingly and retighten screws (A).

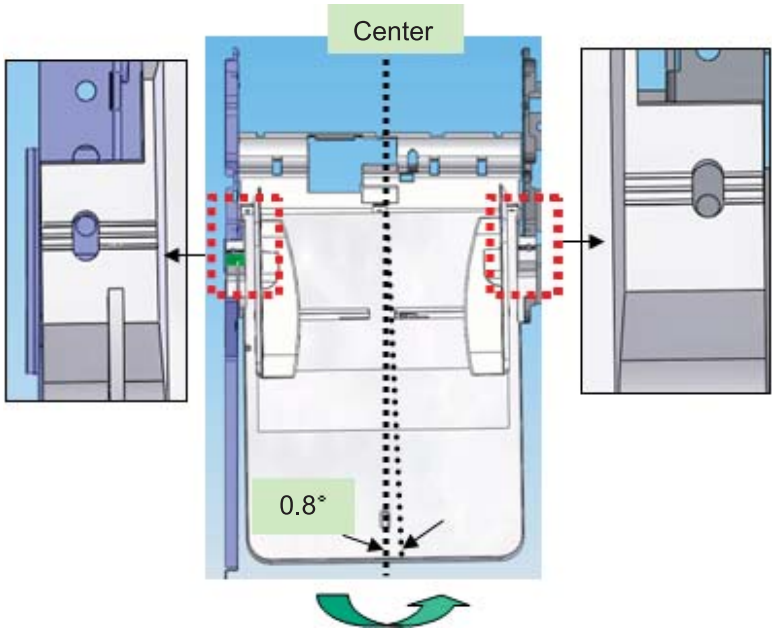


ADF skew adjustment (via ADF document tray)

1. Remove the ADF cover front and ADF cover, rear. Go to **"ADF cover, front removal" on page 4-64** and **"ADF cover, rear removal" on page 4-65**.
2. Loosen the screws securing the ADF document tray on either side.



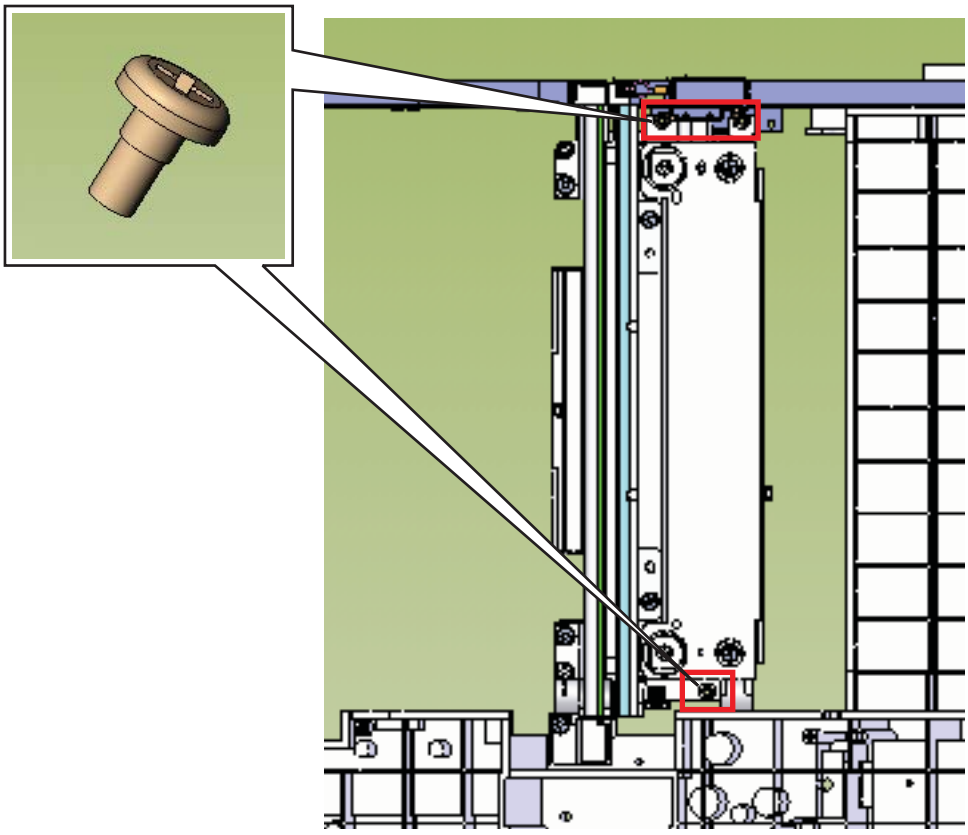
3. For negative skew, rotate the document tray clockwise as shown above.



4. For positive skew, rotate the document tray counterclockwise as shown above.
5. After skew correction has been made, tighten the document tray screws, and reinstall the ADF front and rear covers.

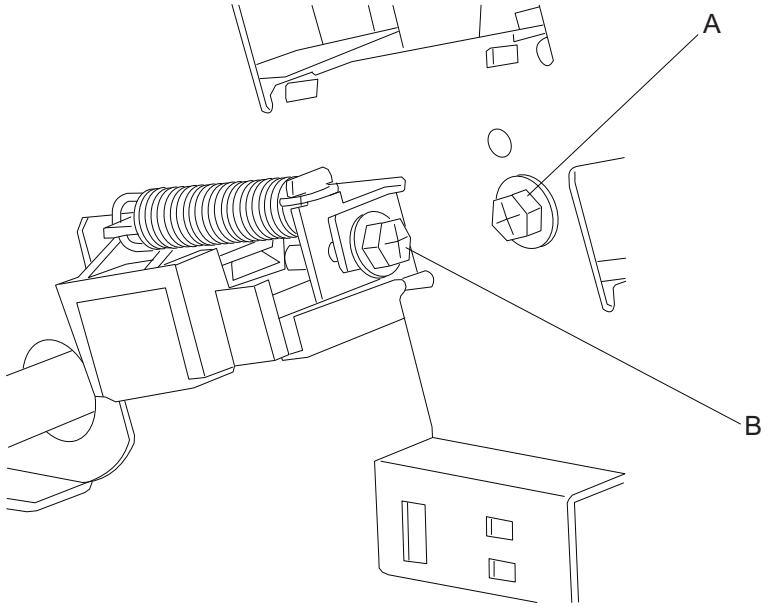
ADF skew adjustment (Via duplex CCD assembly)

1. Remove the ADF cover, front. Go to **"ADF cover, front removal" on page 4-64**.

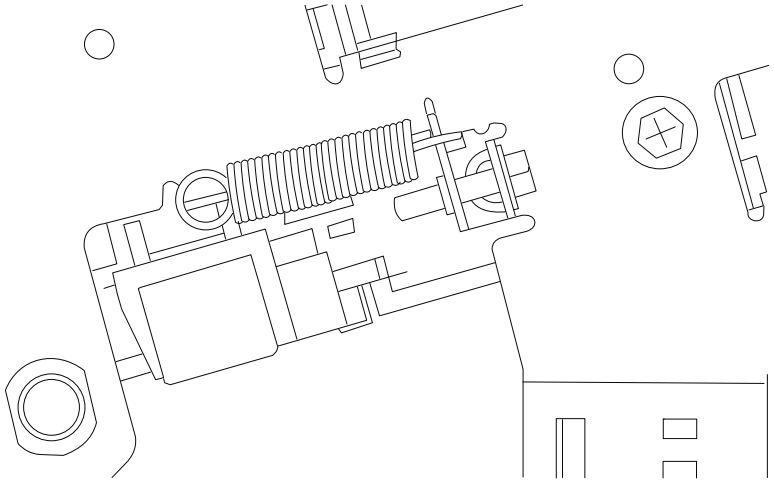


2. Loosen the M4 screw (A) on the right below.
3. Turn the skew adjustment screw (B) (to the left, below) appropriately - clockwise for negative skew and counterclockwise for positive skew.

Note: Each full turn of the adjustment screw yields .5 mm of skew correction. The maximum adjustment is three turns for clockwise movement of the screw, and four turns for counterclockwise movement.



4. After skew has been corrected, tighten the M4 screw above. Assembly is reverse of the removal procedures.

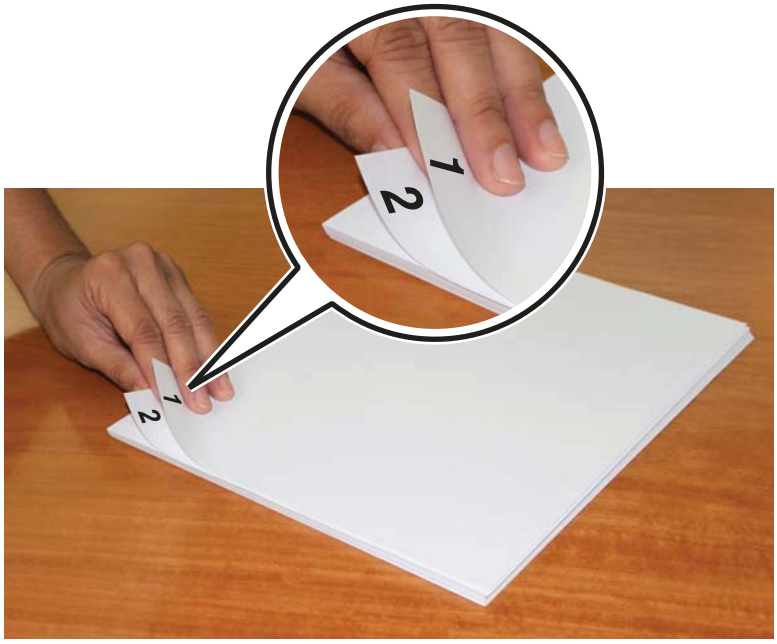


Note: If the bracket above is aligned with the alignment hole in the ADF frame, the duplex CCD assembly is parallel with its roller.

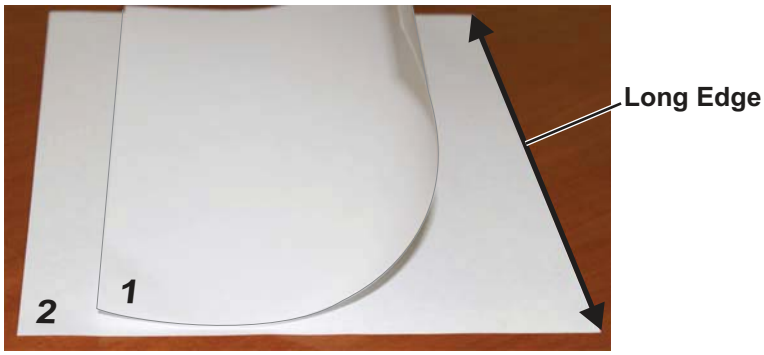
Media squareness check

This test is critical when cut paper is being used to align the ADF skew during reworks. Pallets of quality paper may be found with more than 2 mm of skew.

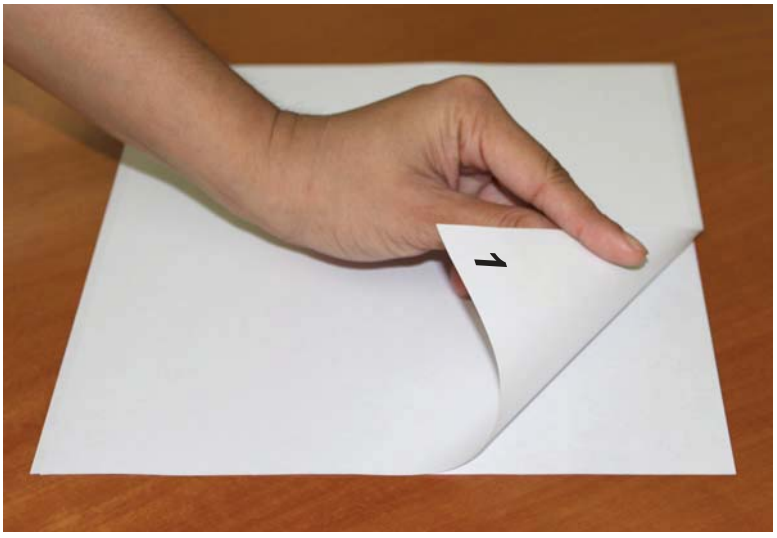
1. Remove two consecutive pieces of paper from the ream.



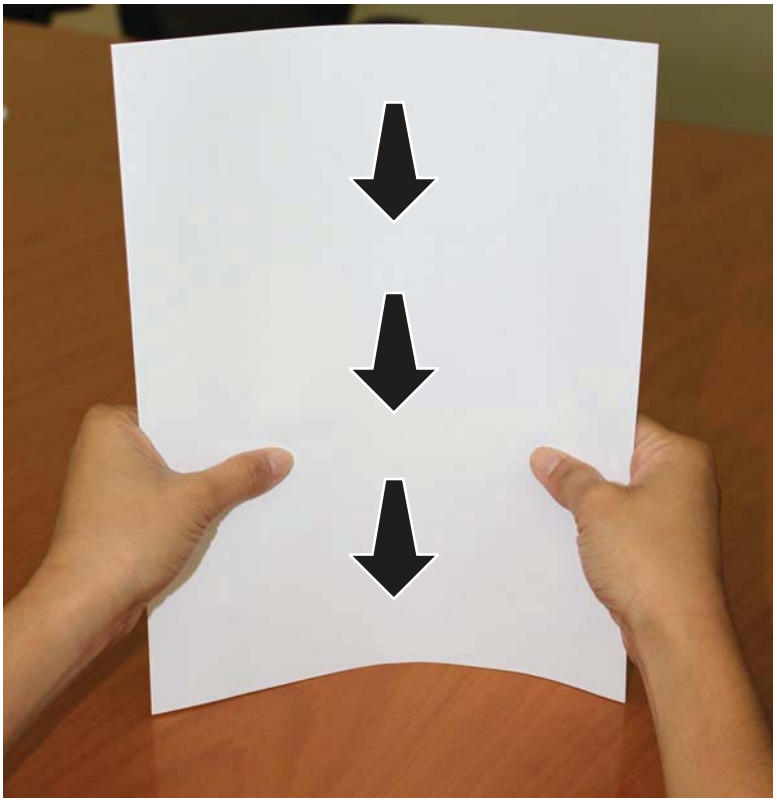
2. Flip one of the pages over in the direction shown below.



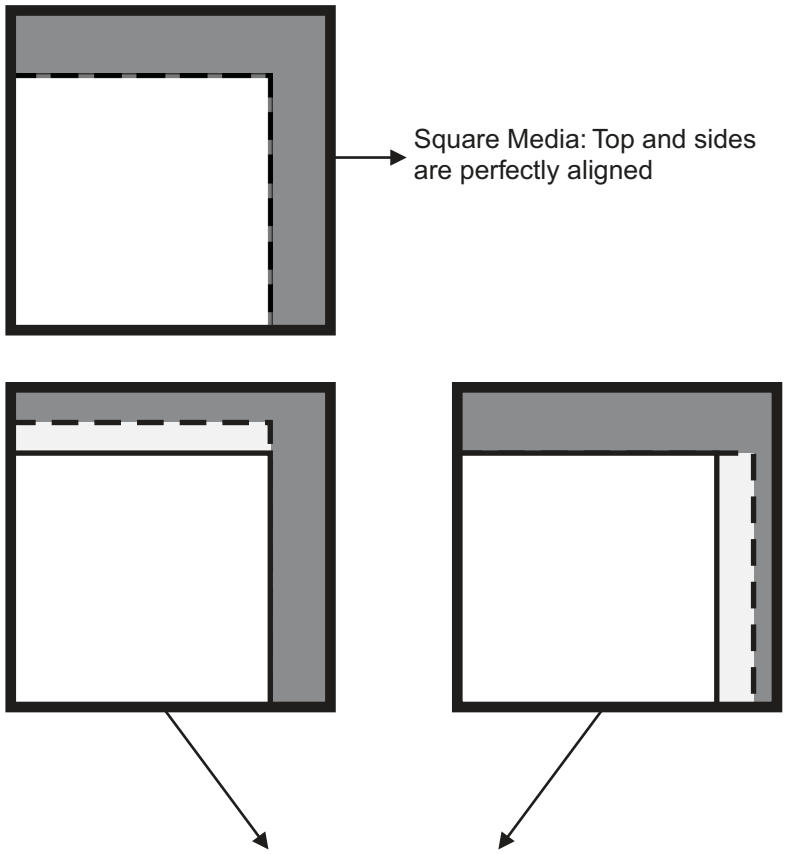
3. This shows the final position of the two pages.



4. Tap the two pages on a flat surface until the bottom edge is aligned.

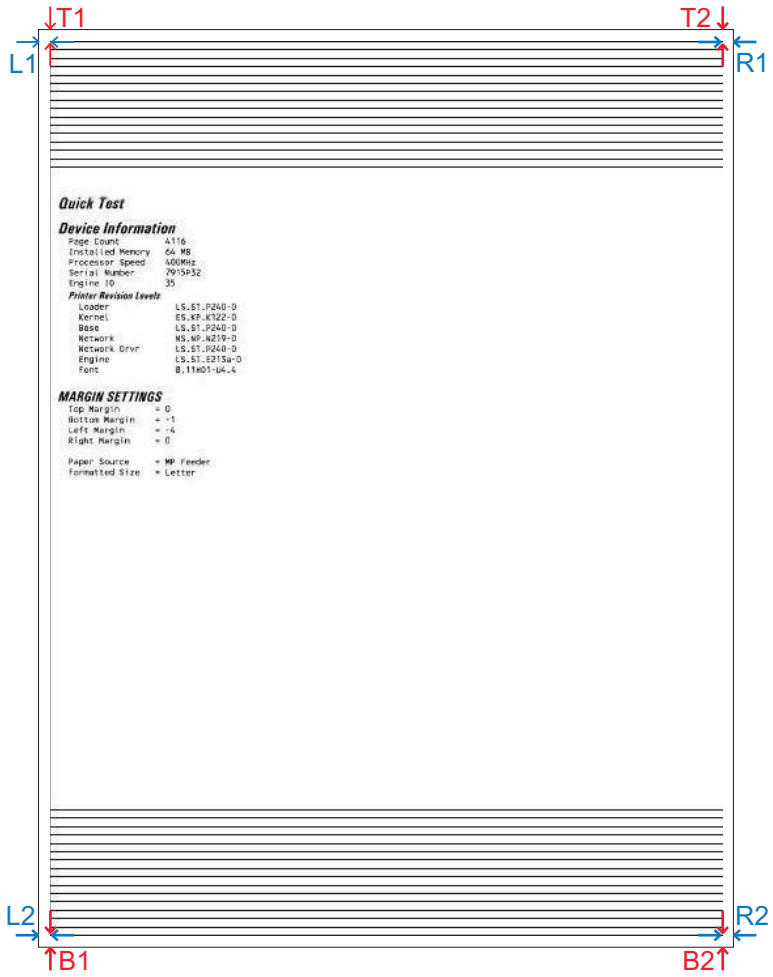


5. Look closely at the top edge of the media to see if the sheets are aligned.



Print skew correction procedure

1. Check the paper squareness.
2. Make sure the guides in the paper tray are properly aligned.
3. Check the base printer skew and registration.
4. Plug printer into the power source and power on in **Diagnostics Mode (hold down 3 and 6 during POR)**.
5. Measure L1, L2, T1, T2, R1, R2, B1, and B2 data points as shown below.



6. Determine the following calculations:
   - L2-L1 = ___
   - R2-R1 = ___
   - T2-T1 = ___
   - B2-B1 = ___

7. Determine if the printer passes or fails the skew specifications based on the values listed on the table..

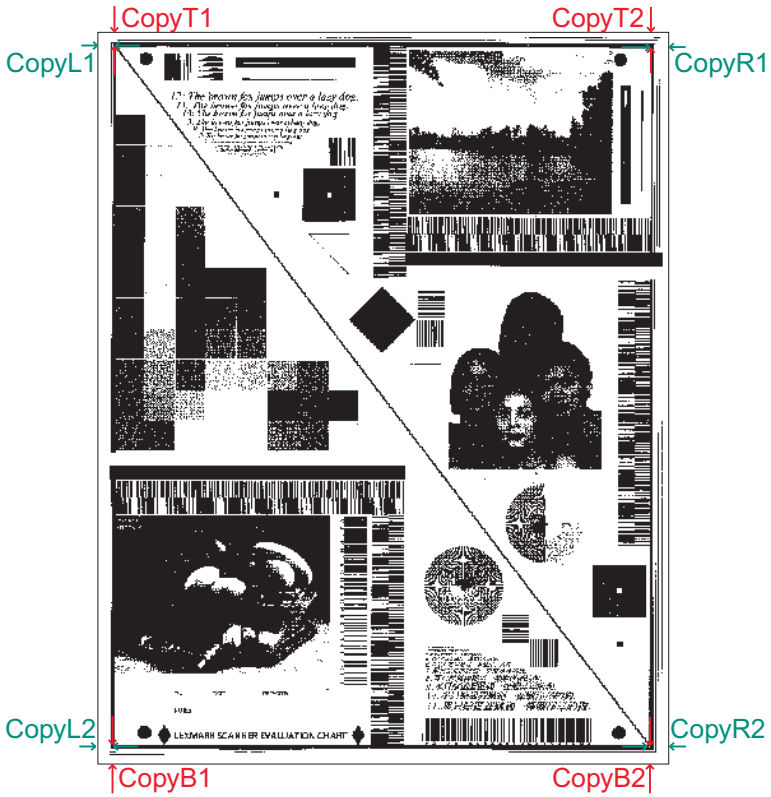
Skew Specification				
	(L2-L1)	**(R2-R1)**	**(T2-T1)**	**(B2-B1)**
Letter	≤1.4 mm	≤1.4 mm	≤1 mm	≤1 mm
A4	≤1.5 mm	≤1.5 mm		
Legal	≤1.8 mm	≤1.8 mm		

8. If the printer does not meet the skew specifications, adjust the reference edge as specified in **"Alignment assembly adjustment" on page 4-3** or adjust the printhead as specified in **"Polygon printhead mechanical registration adjustment" on page 4-2** as needed.
9. Check the registration by looking at the dots at the edges of the page. Adjust as needed.

Copy skew correction procedure

Note: This specification is used for copies from the flatbed, front ADF, and back ADF.

1. Check the paper squareness.
2. Make sure the guides in the paper tray are properly aligned.
3. Check the printer skew and registration.
4. Make sure the page is pushed to the top left corner of the flatbed.
5. Make sure the autodocument guides are snug against the page.
6. Plug printer into the power source and power on in **Normal Printing Mode**.
7. Measure CopyL1, CopyL2, CopyT1, CopyT2, CopyR1, CopyR2, CopyB1, and CopyB2 data points as shown below.



8. Measure from the edge of the paper to the outer edge of the thick black line.

9. Determine the following calculations:
   - CopyL2-CopyL1 = ___
   - CopyR2-CopyR1 = ___
   - CopyT2-CopyT1 = ___
   - CopyB2-CopyB1 = ___
   - CopyT1-CopyB1 = ___
   - CopyL1-CopyR1 = ___

10. Determine if it passes or fails the skew specifications, based on the values listed in the table.

Copy Skew Specification		
Measurement	**Specification**	**Description**
(CopyL2-CopyL1)	≤2.0 mm	Left Skew
(CopyR2-CopyR1)	≤2.0 mm	Right Skew
(CopyT2-CopyT1)	≤1.5 mm	Top Skew
(CopyB2-CopyB1)	≤1.5 mm	Bottom skew

Copy Registration Specification		
Measurement	**Specification**	**Description**
(CopyT1-CopyB1)	≤3.0 mm	Vertical Registration
(CopyL1-CopyR1)	≤4.0 mm	Horizontal Registration

11. Adjust the skew as specified in **"Adjusting skew" on page 3-93** as needed.
12. Adjust the scanner registration manually as needed in the Configuration Menu.

Security Reset Jumper

The Security Reset Jumper is available on all high-end printer and MFP models, including the T650, T652, X652/5535dn, X654, X656, and X658.

It functions as described below (excerpt from the RIP Functional Spec):

Security Reset Jumper

Each device contains a hardware jumper with which an administrator can:

- Erase all security templates, building blocks, and access controls that a user has defined (i.e. the factory default configuration); or
- Force the value of each function access control to “No Security” (all security templates and building blocks are preserved but not applied to any function).

Note: Note: If the “Enable Audit ” setting in the Security Audit Log section of the “Security Menu ” is activated, the device logs a message each time that the jumper is used.

A small lock icon identifies the jumper’s position on the RIP card. Also, to make it easier to separate the small yellow plastic jumper from the 3-pin connector, a looped handle is attached to the top of the small yellow jumper that covers the 3-pin connector.

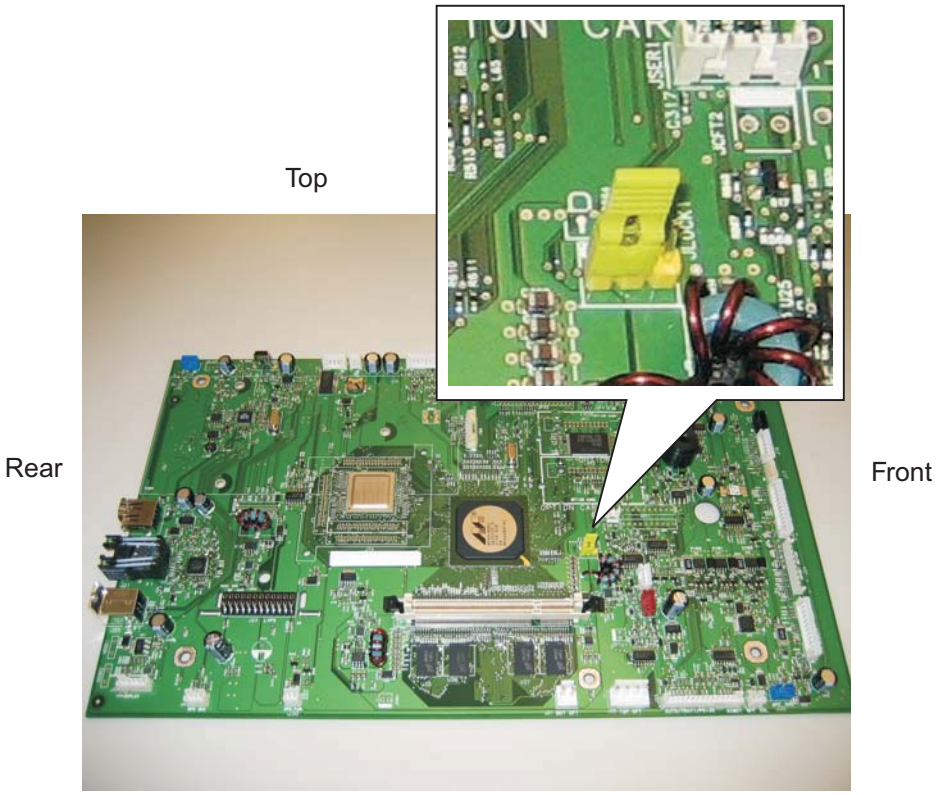
An administrator controls how a jumper reset affects a device by configuring the jumper-related setting on the Security Web page.

Note: Administrators can discourage tampering with the jumper by securing the entire RIP card cage (of which the jumper is a part) with a Kensington lock. or, to completely negate the effects of a jumper reset, an administrator can select the “No Effect ” value for the jumper-related setting on the Security Web page or in the “Security Reset Jumper ” setting in the “ Security Menu”.

To perform a jumper reset operation:

1. Power the device off.
2. Remove the Kensington lock from the card cage (if installed).

3. Remove the small yellow jumper that covers a pair of the jumper's pins.



4. Replace the small yellow jumper so that it covers the pins adjacent to its original position.
5. Replace and secure the Kensington lock on the card cage (if installed).
6. Power the device on.

Note: The movement of the small yellow jumper from position A to position B triggers the reset, not the specific positions. When the device is powered on, it labels the current position of the small yellow jumper (let's say position A) as the "home " position. If, at the next POR, the device detects that the small yellow jumper has moved from its previous "home " position (position A) to the " other " position (position B), then it performs a jumper reset. After performing the reset, the device also relabels the " other " position (position B) as the " home " position (now position A is the "other " location).

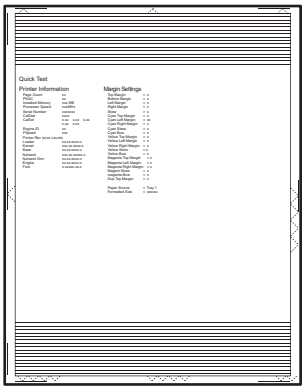
Note: The admin's security settings are lost when the RIP card is replaced. Secure settings are those that are configured under the Settings->Security->Edit Security Setups menu. These are all the PINs, Passwords, and other Building Blocks and Security Templates that define the device's protection of functions and menus. In other words, if the customer is using LDAP to authenticate users to use the Copy function, then after the RIP card is replaced, the device will no longer have that LDAP configuration or the Copy function protected.

Printer skew specifications

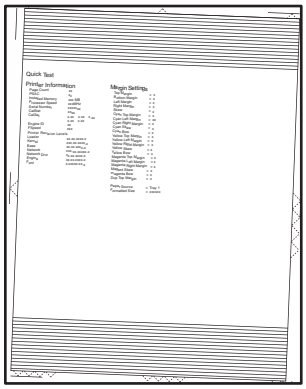
Abnormal skew printer correction

STEP ONE: The repair operator should ev aluate the left edge of the paper to determine if the aligner is properly set. If the left vertical line is with the defined limit, parallel to the edge of the paper, the aligner is correct and properly set. If the left edge vertical line is not within the defined limit spec the repair operator can adjust the aligner at the repair station.

STEP TWO: The repair operator should evaluate the horizontal line at the top edge of the page for potential LSU induced skew. If the horizontal line does not fall within the defined limit or spec, then it is considered skewed and the printhead must be adjusted. Go to **“Polygon printhead mechanical registration adjustment” on page 4-2**.

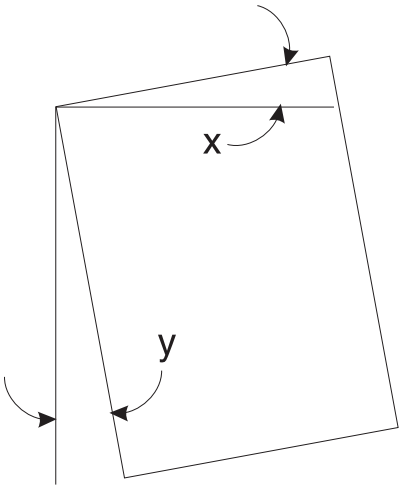


Straight



Skewed

Printhead Skew + Paper Feed Skew



"x” = +/- 0.005mm/mm max.
“y” = +/- 0.005mm/mm max.

Duplex Skew Specification		
Side:	1	2
Print Sequence Thru Printer:	2nd	1st
16 lb-to-24 lb	+/-0.007 mm/mm	+/-0.005 mm/mm
All Other Papers	+/-0.010 mm/mm	+/-0.005 mm/mm
Card Stock	+/-0.007 mm/mm	+/-0.007 mm/mm
Labels: - Paper, Dual-Web Paper - Vinyl, Polyester (less than or equal 92# liner	+/-0.010 mm/mm +/-0.010 mm/mm	+/-0.010 mm/mm +/-0.010 mm/mm

Print Registration

Initial adjustment (adjustable in increments of T=0.3mm, B-0.5mm, R and L=0.2mm

Left print position accuracy (scanning direction): +/-0.5mm - start on scan
Top print position accuracy (feeding direction): +/-0.5 mm - start on scan
Horizontal page width accuracy: +/-0.5mm - mirror motor
Vertical page length accuracy: +/-0.5mm - drive motor

Print Position Error

Measured at any point in the printable area using core media papers.
Vertical (process): +/-0.7mm
Horizontal (magnification): +/-0.7mm

4. Repair information

Warning: Read the following before handling electronic parts.

Handling ESD-sensitive parts

Many electronic products use parts that are known to be sensitive to electrostatic discharge (ESD). To prevent damage to ESD-sensitive parts, use the following instructions in addition to all the usual precautions, such as turning off power before removing logic boards:

- Keep the ESD-sensitive part in its original shipping container (a special “ESD bag”) until you are ready to install the part into the machine.
- Make the least-possible movements with your body to prevent an increase of static electricity from clothing fibers, carpets, and furniture.
- Put the ESD wrist strap on your wrist. Connect the wrist band to the system ground point. This discharges any static electricity in your body to the machine.
- Hold the ESD-sensitive part by its edge connector shroud (cover); do not touch its pins. If you are removing a pluggable module, use the correct tool.
- Do not place the ESD-sensitive part on the machine cover or on a metal table; if you need to put down the ESD-sensitive part for any reason, first put it into its special bag.
- Machine covers and metal tables are electrical grounds. They increase the risk of damage, because they make a discharge path from your body through the ESD-sensitive part. (Large metal objects can be discharge paths without being grounded.)
- Prevent ESD-sensitive parts from being accidentally touched by other personnel. Install machine covers when you are not working on the machine, and do not put unprotected ESD-sensitive parts on a table.
- If possible, keep all ESD-sensitive parts in a grounded metal cabinet (case).
- Be extra careful in working with ESD-sensitive parts when cold-weather heating is used, because low humidity increases static electricity.

Adjustments

Polygon printhead mechanical registration adjustment

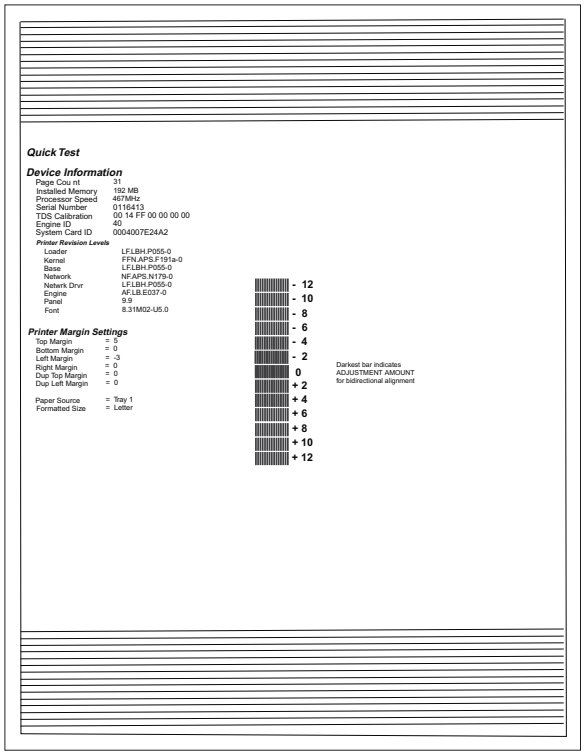
Do the printhead mechanically registration adjustment whenever you remove or replace the printhead or loosen the mounting screws.

Install the new printhead with the mounting screws centered in the slots in the printhead frame assembly. Leave the screws loose enough to allow the printhead to move from side to side within the slots. It is necessary to perform a mechanical registration adjustment before locking down the three printhead mounting screws.

Note: In the case of paperfeed skew, go to **"Alignment assembly adjustment" on page 4-3**.

To perform the mechanical registration adjustment:

1. Turn the printer off.
2. Press and hold 3 and 6 to enter the diagnostic mode.
3. Turn the printer on, and release the buttons when `Performing Self Test` displays.
4. Select **Registration** from the menu.
5. Select **Quick Test Page**. The test page should only be printed on letter or A4 paper from Tray 1. The Quick Test Page consists of alignment diamonds, horizontal lines that can be used for mechanical registration adjustment. An example of the printhead alignment printout is shown below:



Check the Quick Test Page for any sign of misalignment by checking the diamonds at the top left and top right of the test page for equal distance from the top of the page. If necessary, rotate the printhead to the left or right and tighten down the mounting screws and check for proper alignment again by running another Quick Test Page. This procedure may take two or three attempts before you get satisfactory results.

6. When you have the correct adjustment, ensure that the printhead mounting screws are properly tightened.

Alignment assembly adjustment

Note: Power the machine off before performing the adjustment.

Note: In order to make the adjustment, the side cover, left must first be removed to access the adjusting hole in the system card.

Do the alignment assembly adjustment whenever you replace the alignment assembly. It may also be necessary to perform a printhead adjustment after making the media skew adjustment. Always print a copy of the Quick Test Page before making any adjustments to the alignment assembly reference adjustment screw. When replacing the alignment assembly, it is necessary to back the reference adjustment screw out far enough to remove the old assembly and install the new one.

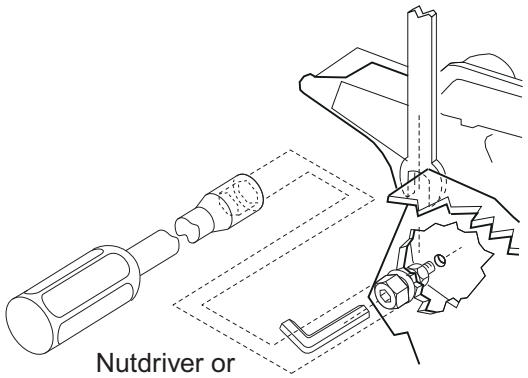
- If you are replacing the alignment assembly, go to step A.
- If you are only adjusting the reference adjustment screw, go to step B.

Step A

Print a copy of the Quick Test Page and check the margin adjustments printed on the test page. These settings should be within the range specified in **"Registration" on page 3-51**.

Do the reference adjustment if you are sure the margins are set correctly.

1. Loosen the locknut on the inside rear of the alignment assembly.
2. Remove the two screws holding the alignment assembly to the left side frame.
3. Back the reference adjustment screw out far enough to allow the alignment assembly to be removed from the printer. It is not necessary to completely remove the screw.



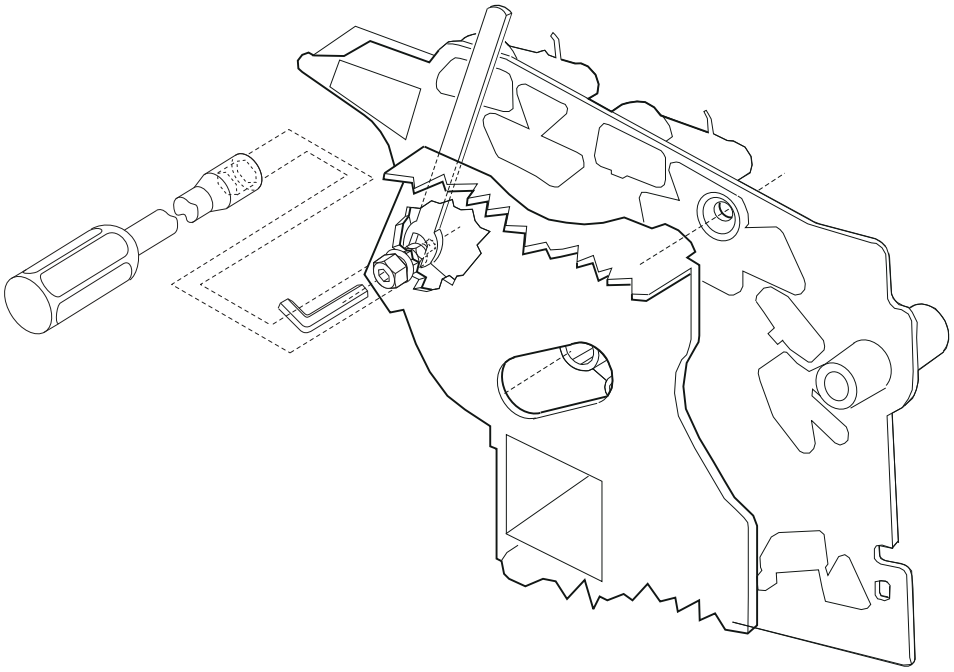
4. Install the new alignment assembly. Turn the reference screw clockwise with a 7 mm nut driver or M3 Allen wrench until it touches the back of the reference plate, and tighten the nut with a 5.5 mm wrench.

The reference adjustment screw can be adjusted without loosening the nut. Turn the screw clockwise a few turns and print a copy of the Quick Test Page as you check the diamonds on the left margin. Continue adjusting the screw as you check the results of each adjustment on a new test page until you obtain the results you want.

Step B

Print a copy of the Quick Test Page, and check the margin adjustments printed on the test page. These settings should be within the range specified in **"Registration" on page 3-51**. The reference screw can be adjusted without loosening the locknut. Turn the screw a few turns, and print a copy of the Quick Test Page as you check the diamonds on the left margin. Continue adjusting the screw as you check the results of each adjustment on

a new test page until you obtain the results you want.



Fuser solenoid adjustment

Perform the fuser solenoid adjustment whenever you replace the fuser solenoid. Adjust the fuser solenoid while installed in the printer. Adjust the screw on the eccentric mounted on the solenoid housing to provide an air gap between the rear of the solenoid stator and the solenoid armature. The solenoid air gap for all models is 4.5 mm ± 0.1 mm.

Gap adjustment

The gap adjustment allows you to increase the minimum gap between sheets of paper as they are fed through the printer. This adjustment reduces the printer overall performance, such as pages per minute, but can help in reducing the amount of curl of some printed media, thus improving media stacking in the output bin.

1. Enter the Diagnostic Mode.
2. Select **Ep Setup** from the Diagnostic Menu.
3. Select **Gap Adjust**.
4. The range of the GAP adjustment is 0 to 255. Adjust the gap setting by using to select the value. If GAP=0 displays, it indicates a factory setting to minimum gap. Select a value and run several copies of the media that displays a curl problem. It may take several tries before improvement is noticed.

Note: This setting has no effect when duplexing.

Removal procedures

Before starting service work

CAUTION:

Remove the power cord from the electrical outlet before you connect or disconnect any cable or electronic board or assembly.

CAUTION:

While performing service around the fuser assembly, ensure the fuser area has cooled down.

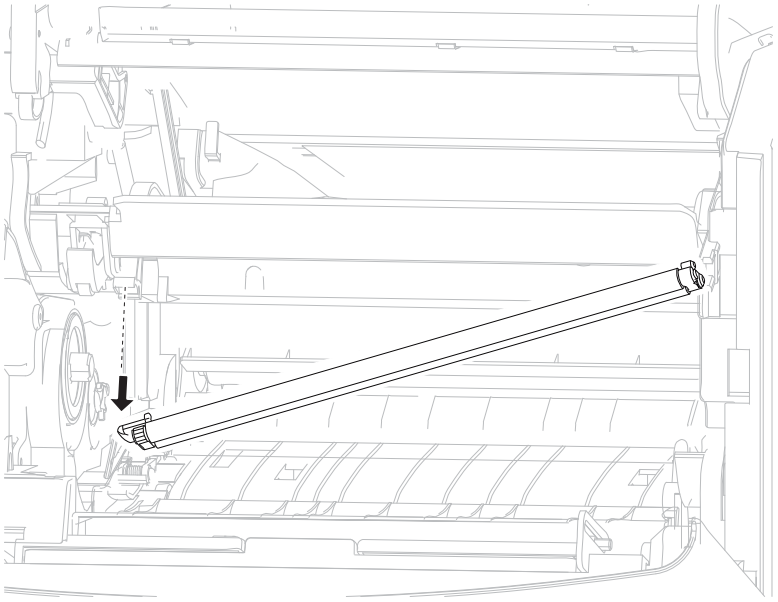
Note: Some removal procedures require removing cable ties. You must replace cable ties during reassembly to avoid pinching wires, obstructing the paper path, or restricting mechanical movement.

Note: A wide variety of screws are used; make note of their positions during service.

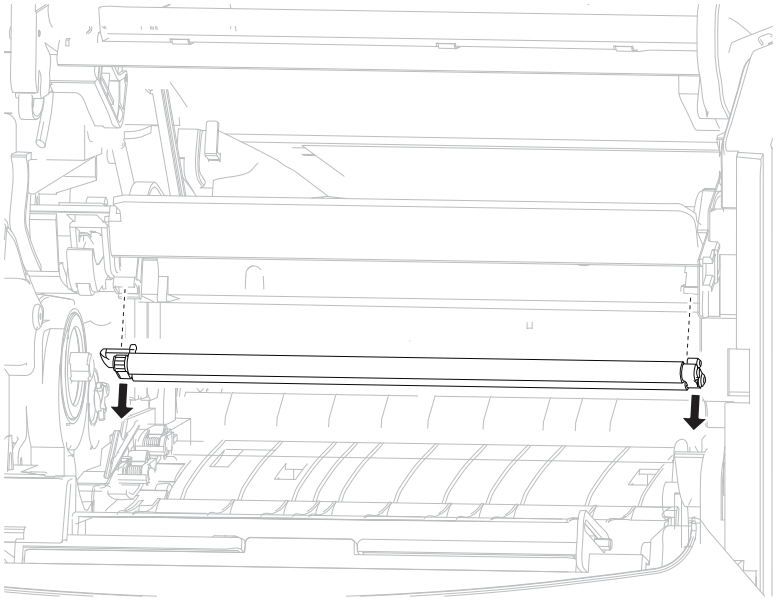
Charge roll assembly removal

WARNING: When removing the charge roll assembly, avoid touching the charge roll surface.

1. Open the MPF door assembly.
2. Open the operator panel door assembly or the print cartridge door assembly.
3. Detach the left side of the charge roll assembly from the machine.



4. Detach the right side of the charge roll assembly from the machine.



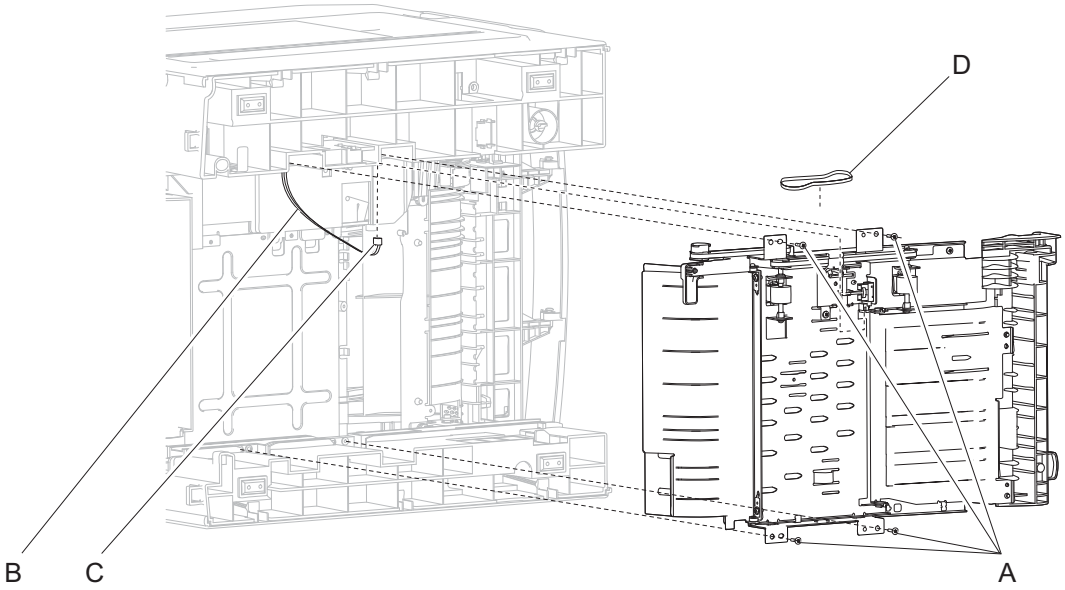
5. Remove the charge roll assembly.

Replacement Warning: When replacing the charge roll assembly, avoid touching the charge roll surface.

Duplex assembly removal

Note: When removing the duplex drive motor assembly, it does not need to be completely removed from the machine. It may be allowed to gently hang out of the way by the harness.

1. Remove the duplex drive motor assembly. See **"Duplex drive motor assembly removal" on page 4-9**.
2. Remove the pick arm assembly. See **"Pick arm assembly removal" on page 4-29**.
3. Remove the four screws (A) securing the duplex assembly to the machine.
4. Remove the harnesses (B) from the clamp.
5. Disconnect the connection (C) from the duplex assembly.



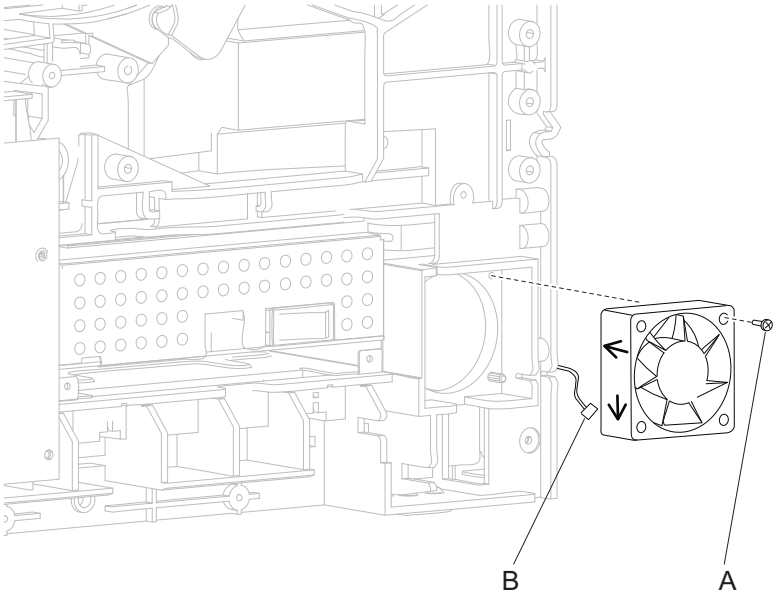
Note: When removing the duplex assembly, the lower duplex drive belt (D) will become detached.

6. Remove the duplex assembly.

Replacement Warning: When replacing the duplex assembly, ensure that the lower duplex drive belt (D) is properly reattached.

Duplex cooling fan removal

1. Remove the side cover, right. See **“Side cover, right removal (models X651, X652/5535dn, X654, and X656)” on page 4-122**.
2. Remove the screw (A) securing the duplex cooling fan to the machine.
3. Disconnect the connector (B) from the duplex cooling fan.

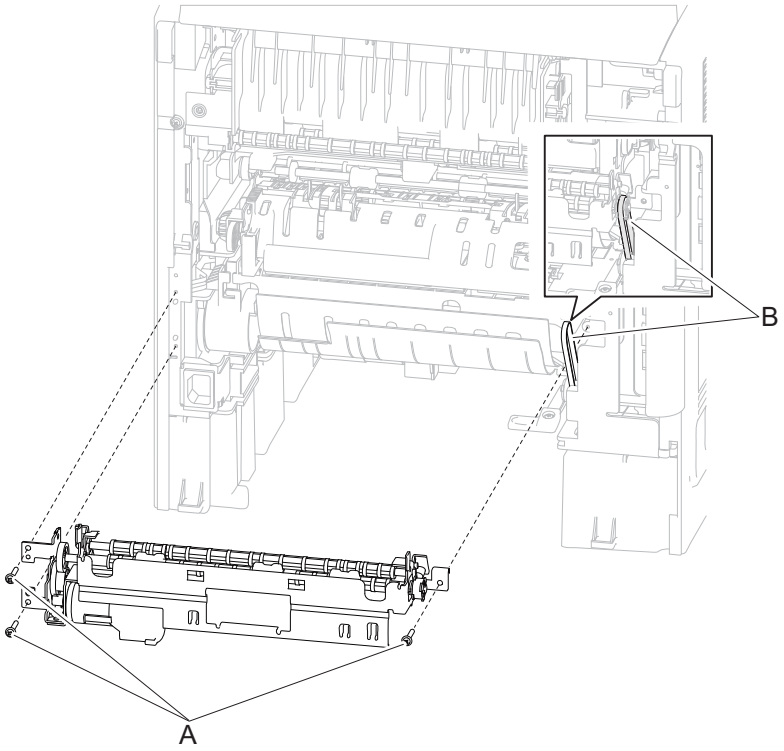


4. Remove the duplex cooling fan.

Replacement Warning: When replacing the duplex cooling fan, ensure that it is installed as shown in the picture.

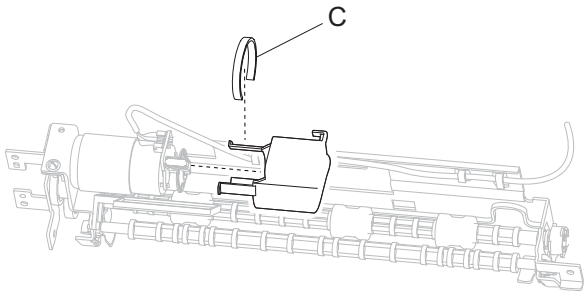
Duplex drive motor assembly removal

1. Remove the fuser access door. See **“Fuser access door assembly removal” on page 4-12**.
2. Remove the cover assembly, rear lower. See **“Cover assembly, rear lower (X654, X656, and X658)” on page 4-38**.
3. Remove the three screws (A) securing the duplex drive motor assembly to the machine.



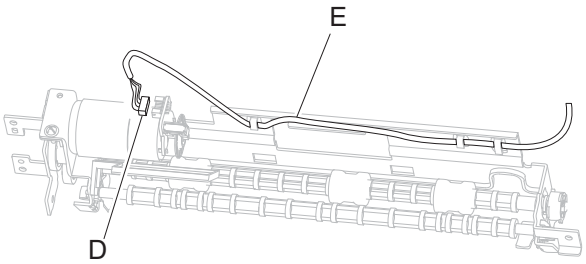
Note: When removing the duplex drive motor assembly, the upper duplex drive belt (B) will become detached.

4. Remove the band (C) from the duplex drive motor assembly.



5. Remove the cover from the duplex drive motor assembly.
6. Disconnect the connection (D) to the duplex drive motor assembly.

7. Remove the harness (E) from the duplex drive motor assembly.

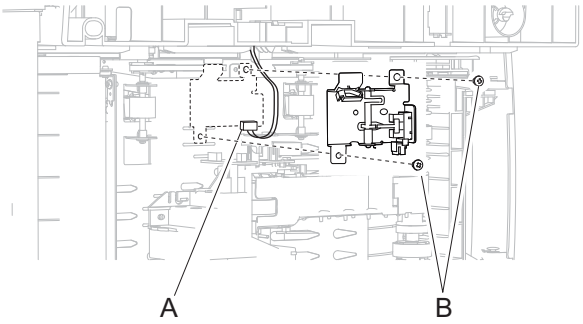


Replacement Warning: When replacing the duplex drive motor assembly, ensure that all harnesses are properly re-routed.

Replacement Note: Ensure the belt is replaced properly.

Duplex input sensor assembly removal

1. Remove the media tray.
2. Gently place the printer on its left or right side.
3. Disconnect the connection (A) from the duplex input sensor assembly.
4. Remove the two screws (B) securing the duplex input sensor assembly to the machine.

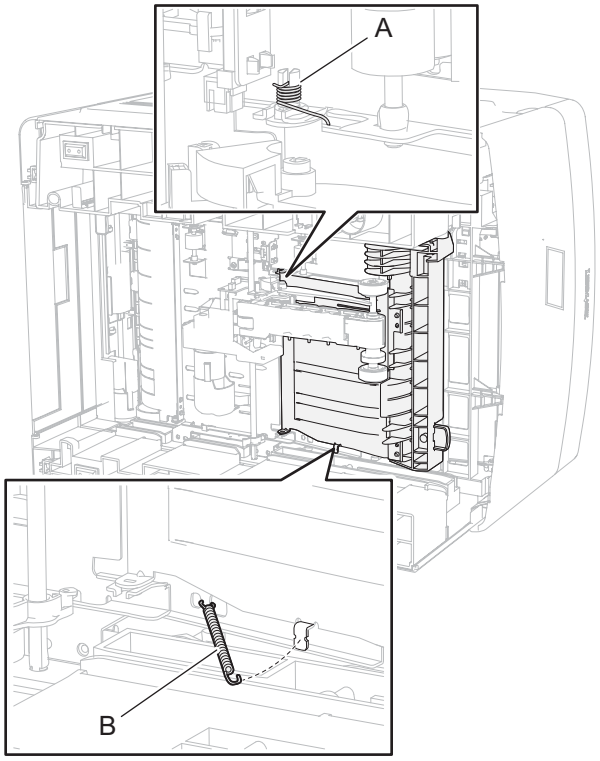


5. Remove the duplex input sensor assembly.

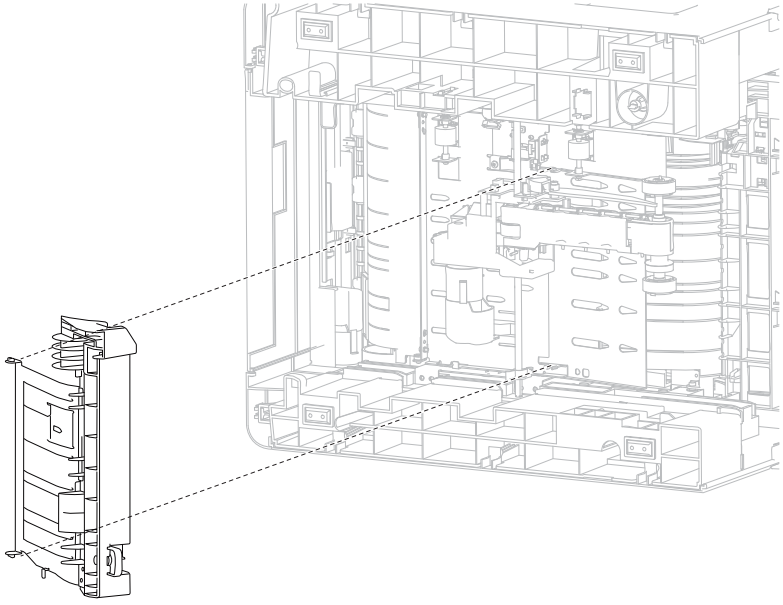
Duplex guide assembly, front removal

1. Remove the media tray.
2. Gently place the printer on its left or right side.
3. Detach the front left duplex guide spring (A) from the duplex guide assembly, front.

4. Detach the front right duplex guide spring (B) from the duplex guide assembly, front.

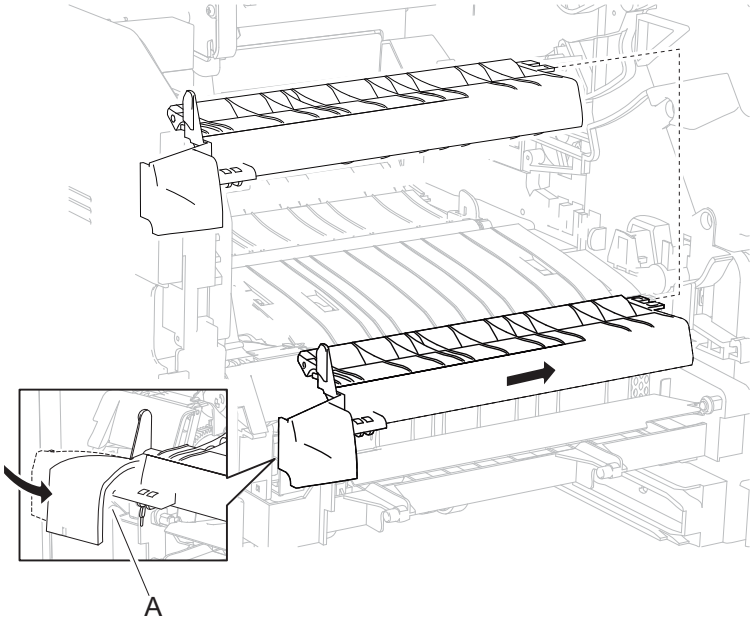


5. Fully open the duplex guide assembly, front 90°, and detach it from the machine.
6. Remove the duplex guide assembly, front.



Media turn guide removal

1. Remove the MPF tray door assembly. See **“Operator panel assembly removal (model X658)” on page 4-109** or **“MPF tray door assembly removal (models X651, X652/5535dn, X654, and X656)” on page 4-97**.
2. Gently bend the left side of the media turn guide to release the hook (A) as shown in the picture.



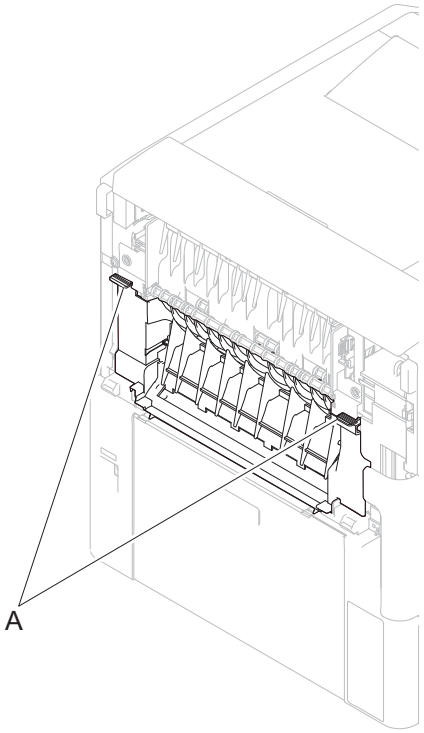
3. While gently bending the media turn guide, move the media turn guide in the direction of the arrow.
4. Remove the media turn guide.

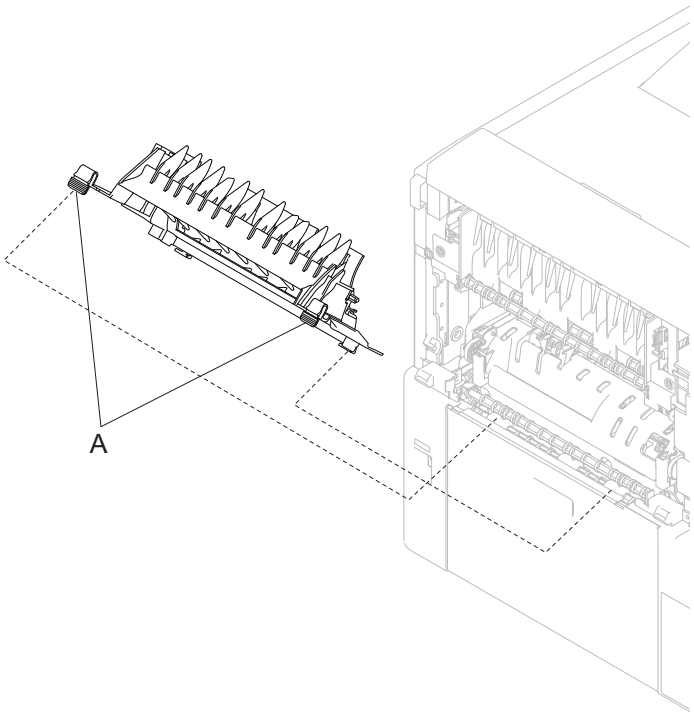
Replacement Warning: When replacing the media turn guide, ensure that it is properly installed, or jamming will occur.

Fuser access door assembly removal

1. Remove the door assembly, rear. See **“Door assembly, rear removal” on page 4-36**.

2. Press the two tabs (A) on the fuser access door assembly, and detach it from the machine.

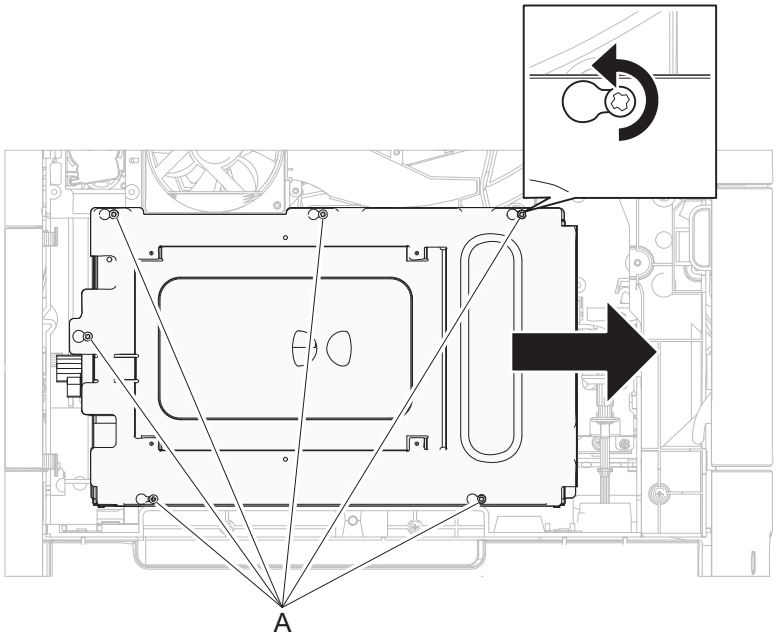




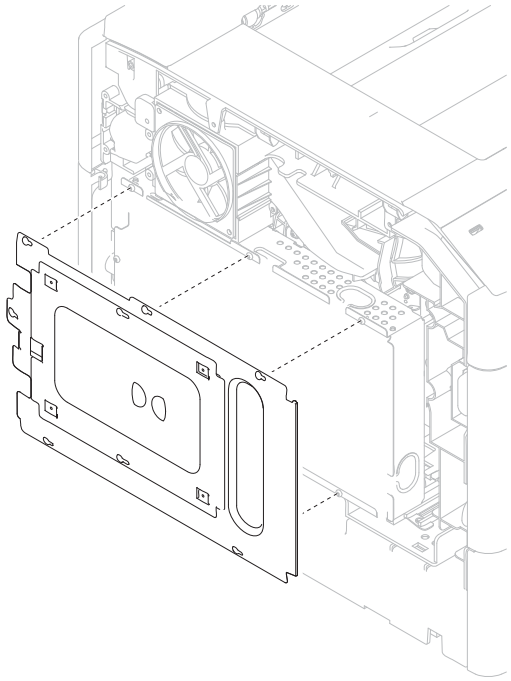
3. Swing the fuser access door assembly away from the machine.
4. Unsnap the fuser access door assembly from the machine.
5. Remove the fuser access door assembly.

Main cooling fan removal

1. Remove the side cover, left. See **“Side cover, left removal (models X651, X652/5535dn, X654, and X656)” on page 4-123** or **“Side cover, left removal (model X658)” on page 4-123**.
2. Remove the six screws (A) securing the metal shield to the machine.

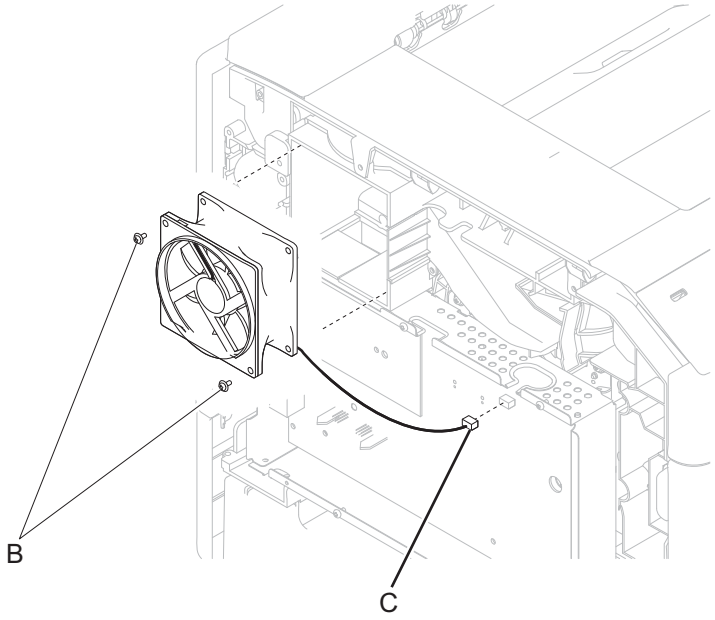


3. Move the metal shield in the direction of the arrow.
4. Remove the metal shield.



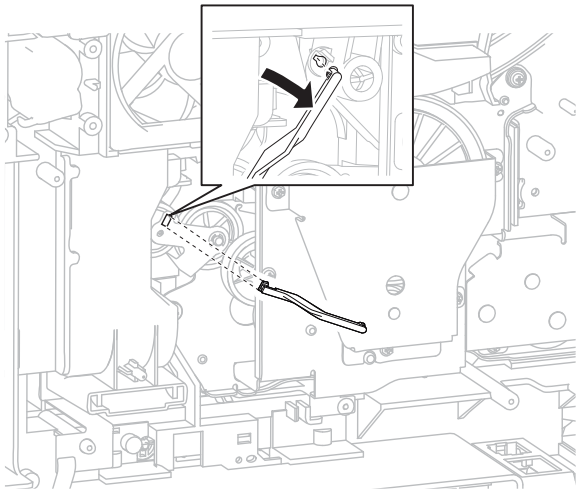
5. Remove the two screws (B) securing the fuser cooling fan to the machine.
6. Remove the fuser cooling fan.

7. Remove the fuser cooling fan connection (C).



Fuser drive release linkage removal

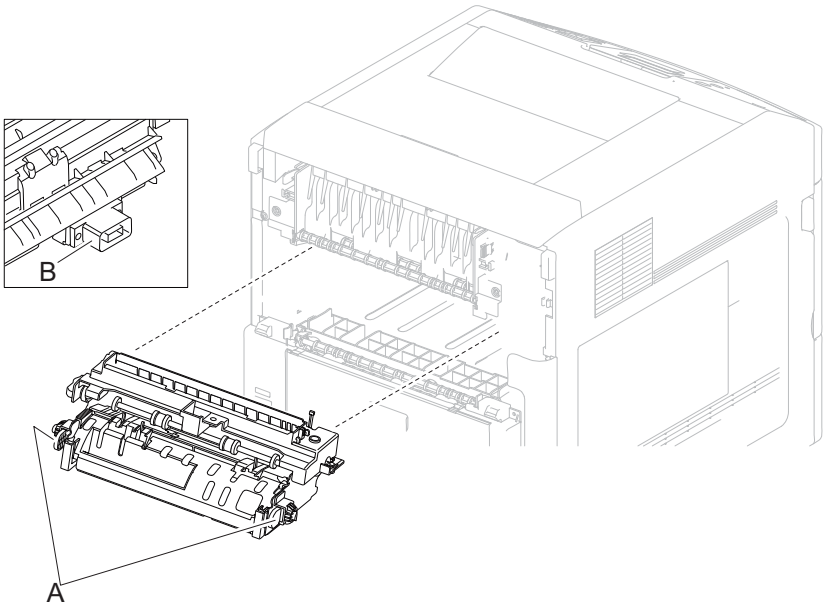
1. Remove the system card assembly. See **"System card assembly removal" on page 4-50**.
2. Gently unsnap the upper end of the fuser drive release linkage from the machine.
3. Rotate the fuser drive release linkage 90° to release the lower end of the fuser drive release linkage from the machine.
4. Remove the fuser drive release linkage.



Fuser unit assembly removal

1. Remove the fuser wiper cover assembly. See **"Fuser wiper cover assembly removal" on page 4-16**.
2. Remove the door assembly, rear. See **"Door assembly, rear removal" on page 4-36**.
3. Open the fuser access door.
4. Press the two buttons (A) on the fuser unit assembly to release it from the machine.

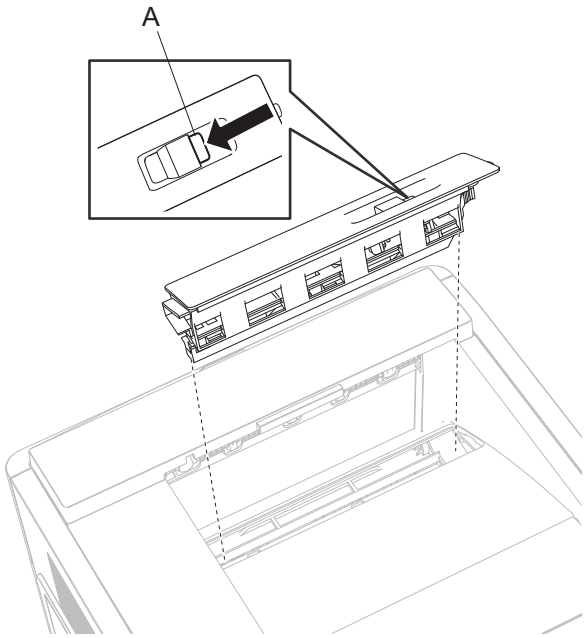
5. While pressing the two buttons (A), pull the fuser unit assembly from the machine.



Replacement Warning: When replacing the fuser unit assembly, ensure that the electrical connection (B) and the two buttons (A) are properly secured.

Fuser wiper cover assembly removal

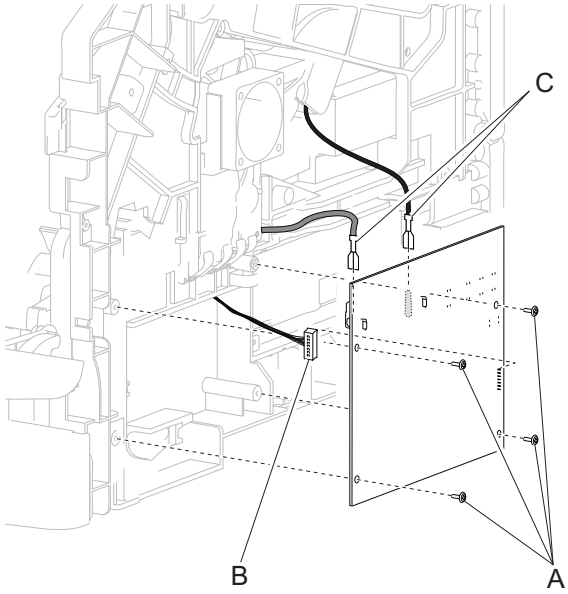
1. Press the button (A) securing the fuser wiper cover assembly to the machine.



2. Remove the fuser wiper cover assembly.

HVPS card assembly removal

1. Remove the side cover, right. See **"Side cover, right removal (models X651, X652/5535dn, X654, and X656)" on page 4-122** or **"Side cover, right removal (model X658)" on page 4-121**.
2. Remove the four screws (A) securing the HVPS card assembly to the machine.
3. Remove the HVPS card assembly.
4. Remove connection (B) and the two high voltage connections (C) from the HVPS card assembly.



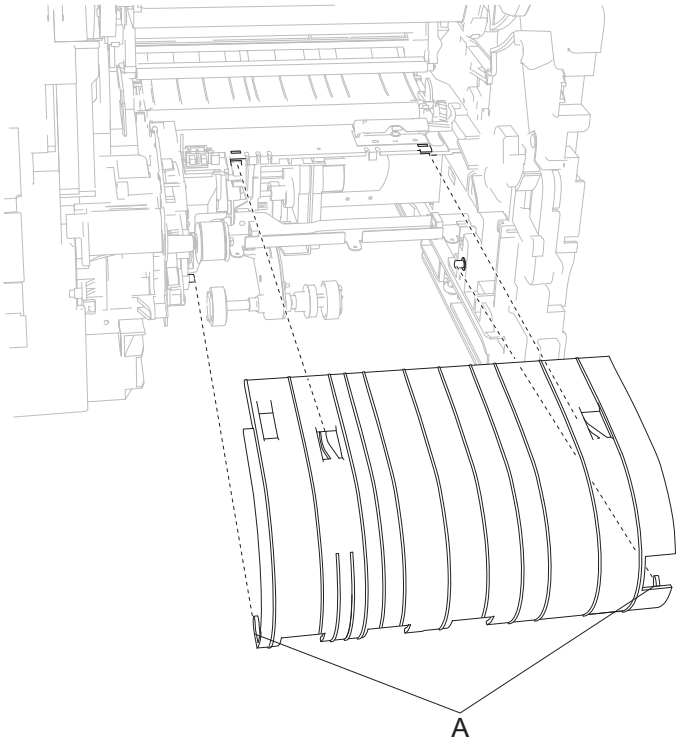
Replacement Warning: When replacing the HVPS card assembly, ensure that the two high voltage connections (C) are properly replaced.

Inner deflector removal

Note: The MPF lift plate assembly can be detached and allowed to hang by the harness. The connection to the MPF lower deflector assembly does not need to be disconnected.

1. Remove the MPF lift plate assembly. See **"MPF lift plate assembly removal" on page 4-25**.

2. Release the two hooks (A) securing the lower portion of the inner deflector to the machine.



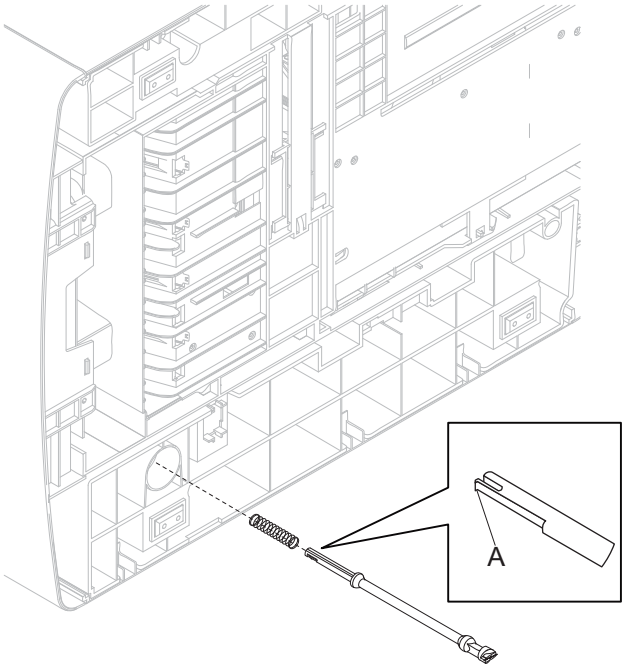
3. Remove the inner deflector.

Replacement Warning: When replacing the inner deflector, ensure that it is properly installed, or jamming will occur.

Option drive shaft removal

1. Gently place the printer on its left or right side.
2. Using pliers, gently pull the option drive shaft from the machine.

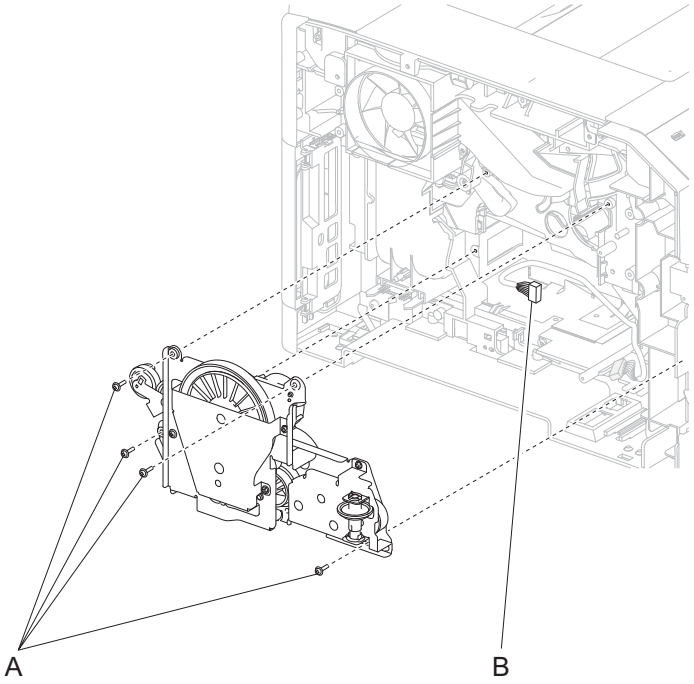
3. Remove the spring.



Replacement Warning: When replacing the option drive shaft, ensure that the plastic hook (A) is not damaged, or the option drive shaft will not remain secured.

Main drive motor assembly removal

1. Remove the system card assembly. See **"System card assembly removal" on page 4-50**.
2. Remove the fuser drive release linkage. See **"Fuser drive release linkage removal" on page 4-15**.
3. Close the operator panel door assembly.
4. Remove the four screws (A) securing the main drive motor assembly to the machine.
5. Gently remove the main drive motor assembly.
6. Disconnect the connection (B) from the main drive motor assembly.



Replacement Warning: Ensure that all electrical connections are properly replaced.

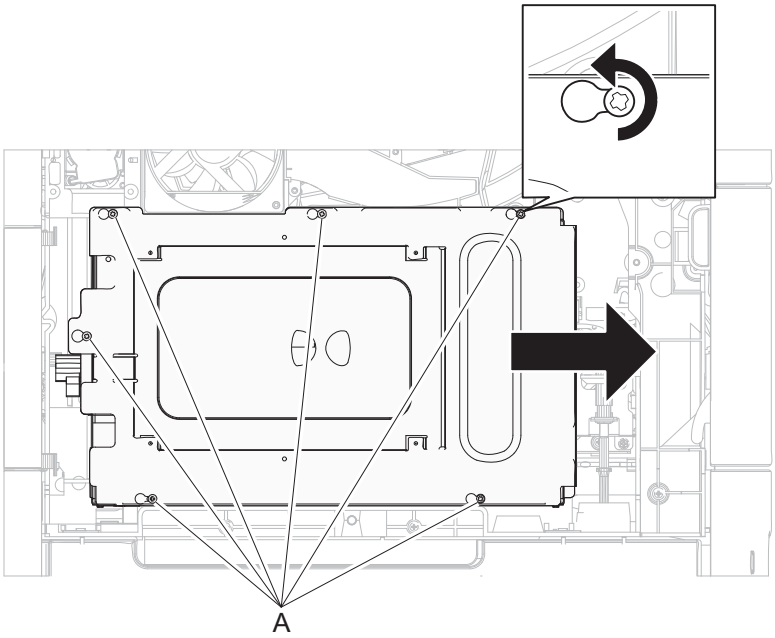
Replacement Warning: When replacing the main drive motor assembly, ensure that the operator panel door assembly is in the closed position or the main drive motor assembly will not align properly and damage will occur.

Replacement Warning: When replacing the main drive motor assembly, ensure that all gears and drive shafts are properly aligned, or damage will occur.

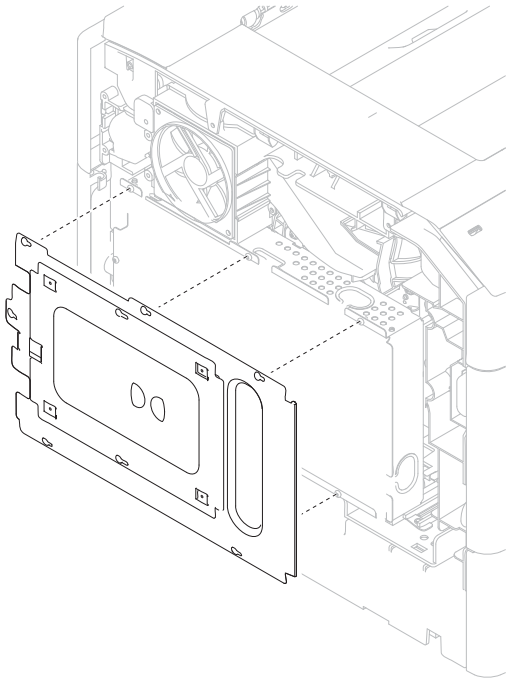
Alignment assembly removal

WARNING: When replacing the alignment assembly, ensure that the media skew is properly adjusted using the adjuster screw (C), or jamming will occur. See **"Alignment assembly adjustment" on page 4-3**.

1. Remove the side cover, left. See **"Side cover, left removal (models X651, X652/5535dn, X654, and X656)" on page 4-123** or **"Side cover, left removal (model X658)" on page 4-123**.
2. Remove the six screws (A) securing the metal cover to the machine.

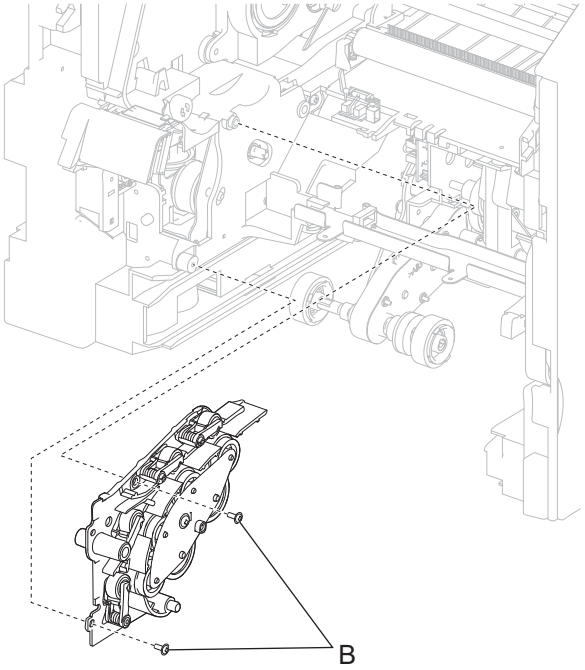


3. Remove the metal cover.
4. Remove the inner deflector. See **"Inner deflector removal" on page 4-17**.



5. Remove the MPF pick solenoid assembly. See **"MPF pick solenoid assembly removal" on page 4-26**.

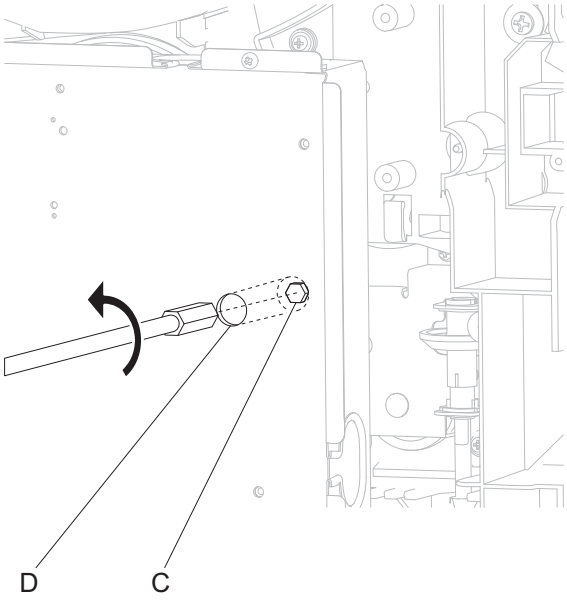
6. Remove the two screws (B) securing the alignment assembly to the machine.



Note: The adjuster screw (C) requires a hex wrench to loosen and tighten.

Note: The adjuster screw (C) can be accessed through the hole (D) in the system card.

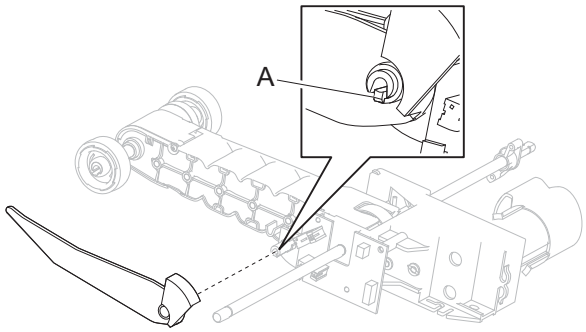
7. Completely loosen the adjuster screw (C) securing the alignment assembly to the machine.
8. Remove the alignment assembly.



Replacement Warning: When replacing the alignment assembly, ensure that the media skew is properly adjusted using the adjuster screw (C) or jamming will occur. Go to **"Alignment assembly adjustment" on page 4-3**.

Media out actuator removal

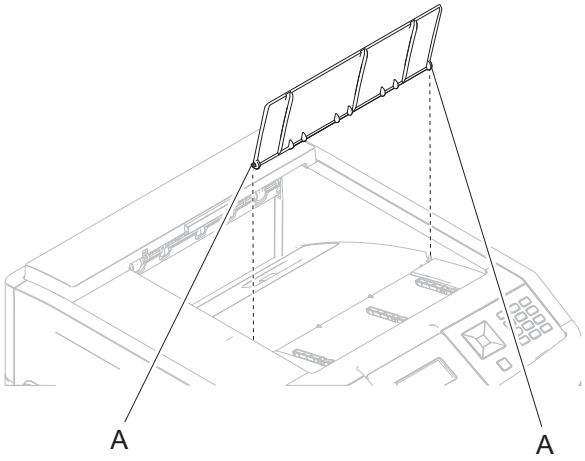
1. Remove the pick arm assembly. See **“Pick arm assembly removal” on page 4-29**.
2. Release the hook (A) securing the media out actuator to the unit.



3. Remove the media out actuator.

Media support removal

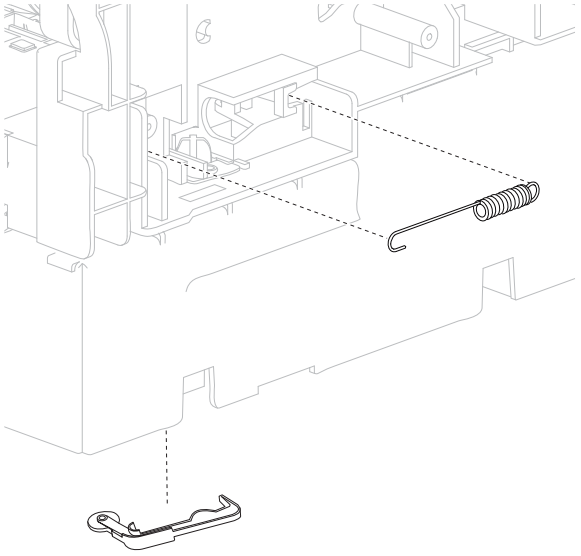
1. Gently detach the two bosses (A) of the media support from the machine.



2. Remove the media support.

Tray roller catch assembly removal

1. Remove the media tray.
2. Remove the HVPS card assembly. See **"HVPS card assembly removal" on page 4-17**.
3. Release the spring from the machine.

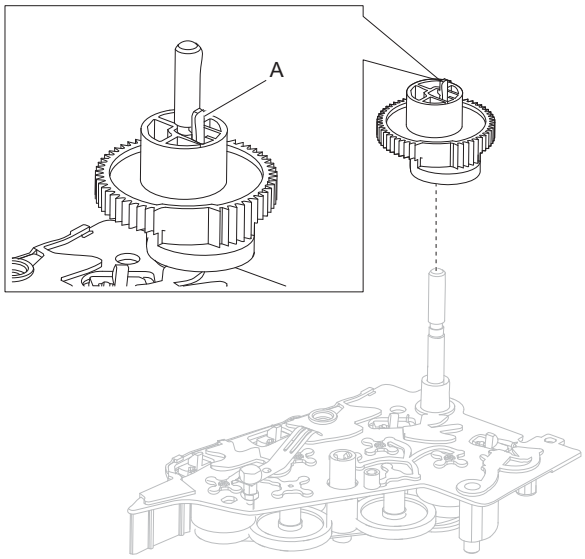


Note: The tray roller catch assembly should be removed from the media tray cabinet.

4. Remove the tray roller catch assembly from the machine.

MPF cam gear removal

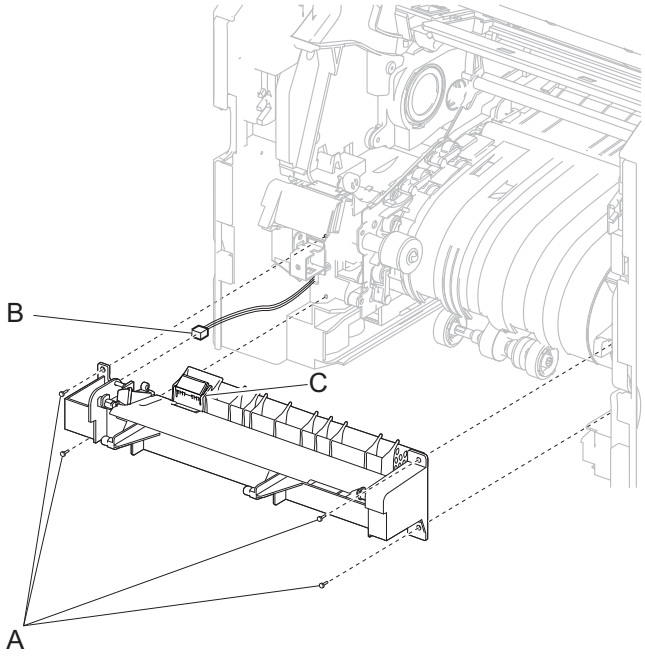
1. Remove the alignment assembly. See **"Alignment assembly removal" on page 4-21**.
2. Release the hook (A) securing the gear to the unit.



3. Remove the MPF cam gear.

MPF lift plate assembly removal

1. Remove the media turn guide. See **"Media turn guide removal" on page 4-12**.
2. Remove the four screws (A) securing the MPF lift plate assembly to the machine.
3. Gently detach the MPF lift plate assembly.
4. Disconnect the connector (B) from the MPF lower deflector assembly.



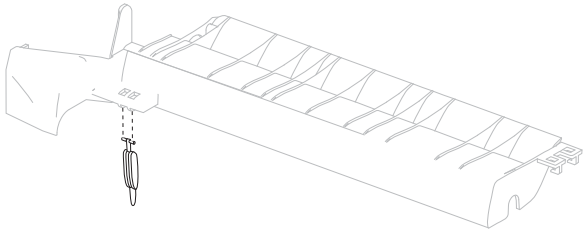
5. Remove the MPF lift plate assembly.

Replacement Warning: When replacing the MPF lift plate assembly, ensure that the lever (C) is held down when reinstalling the MPF lift plate assembly, or damage will occur.

Replacement Warning: When replacing the MPF lift plate assembly, ensure that the MPF pick solenoid assembly does not become damaged.

MPF media out actuator removal

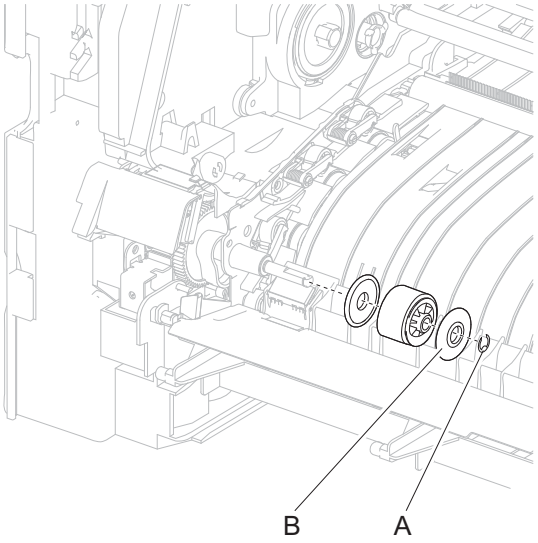
1. Remove the media turn guide. See **"Media turn guide removal" on page 4-12**.
2. Gently unsnap the MPF media out actuator from the machine.



3. Remove the media out actuator.

MPF pick roll assembly removal

1. Remove the media turn guide. See **"Media turn guide removal" on page 4-12**.
2. Remove the E-clip (A) securing the MPF print roll assembly to the machine.
3. Remove the plastic washer (B).



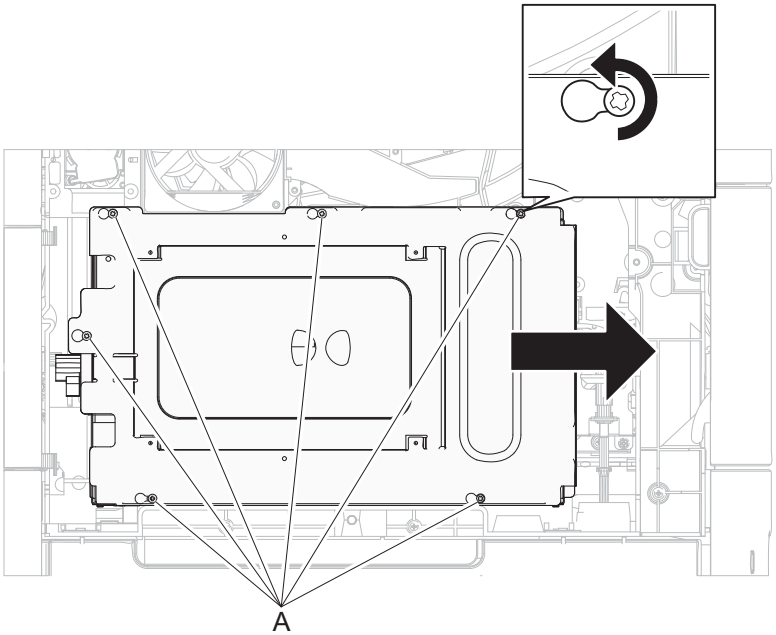
4. Remove the MPF pick roll assembly.

Replacement Warning: When replacing the MPF pick roll assembly, do not touch the rubber surface.

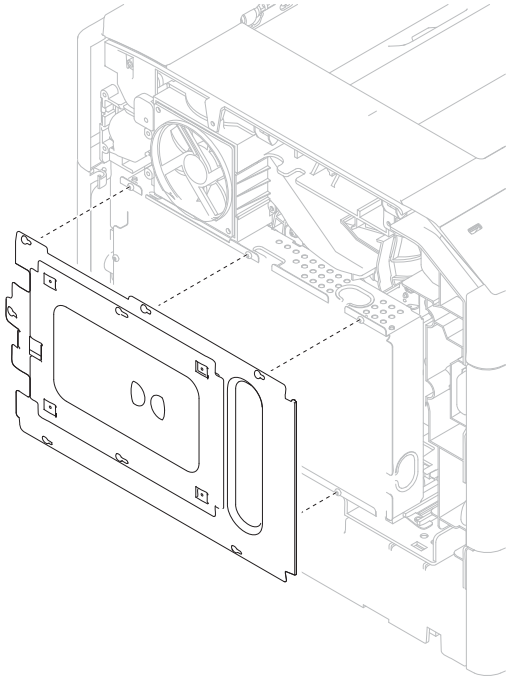
MPF pick solenoid assembly removal

Note: The MPF lift plate assembly can be detached and allowed to hang by the harness. The connection does not need to be disconnected.

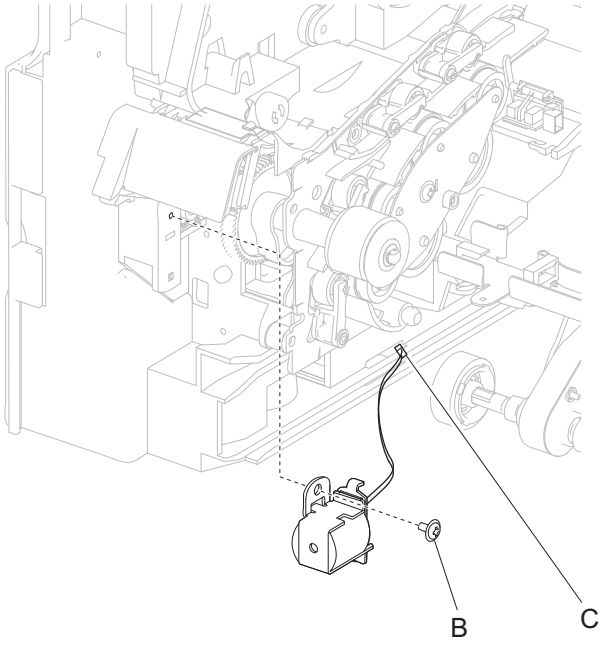
1. Remove the MPF lift plate assembly. See **"MPF lift plate assembly removal" on page 4-25**.
2. Remove the side cover, left. See **"Side cover, left removal (models X651, X652/5535dn, X654, and X656)" on page 4-123** or **"Side cover, left removal (model X658)" on page 4-123**.
3. Remove the six screws (A) securing the metal cover to the machine.



4. Remove the metal cover.

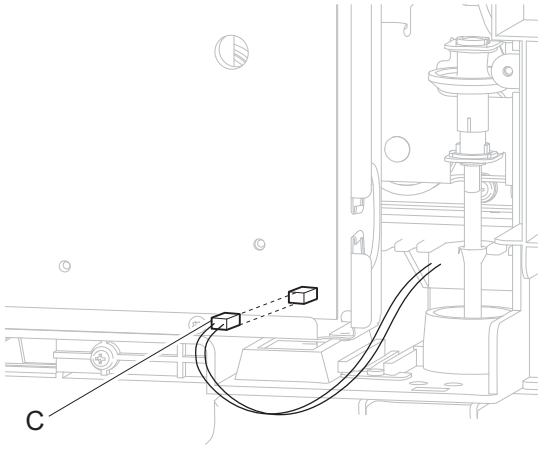


5. Remove the screw (B) securing the MPF pick solenoid assembly to the machine.



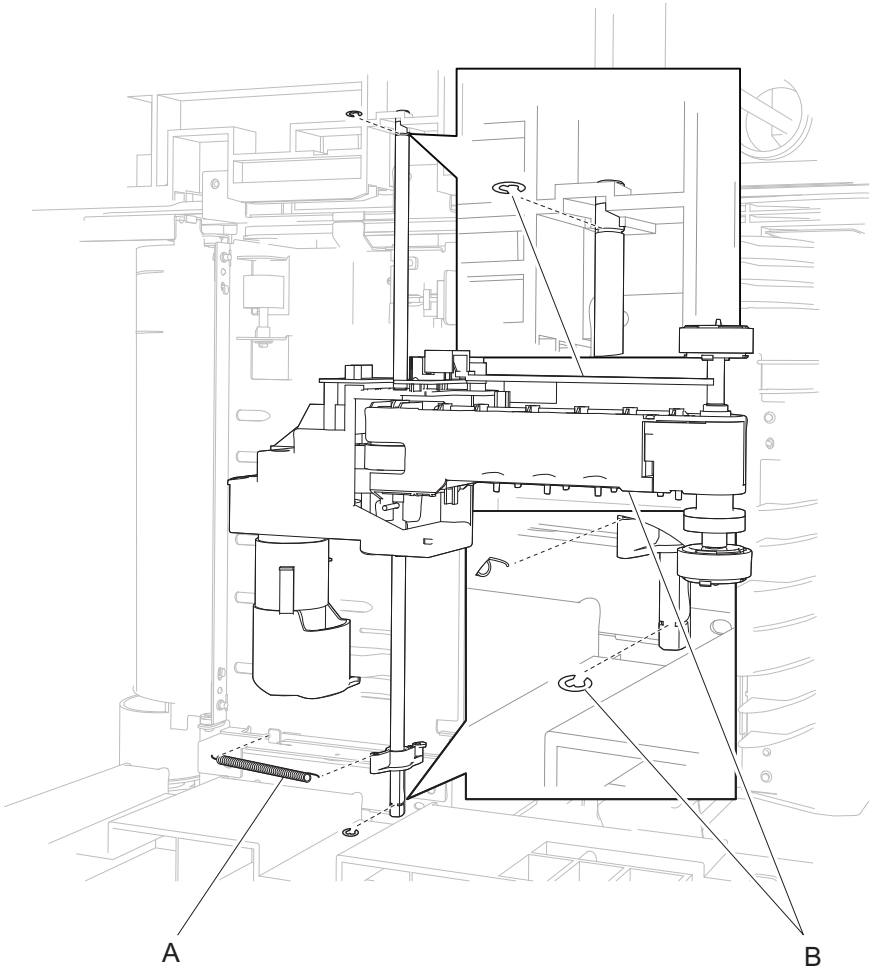
6. Remove the MPF pick solenoid assembly.

7. Disconnect the connection (C) from the MPF pick solenoid assembly.

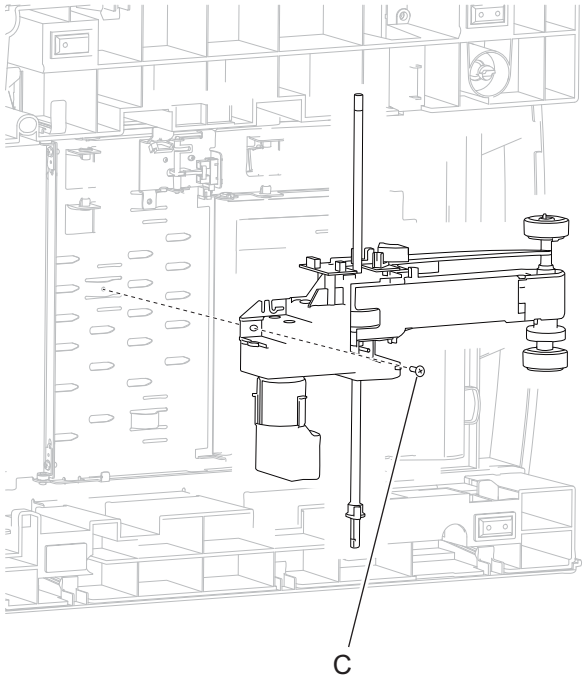


Pick arm assembly removal

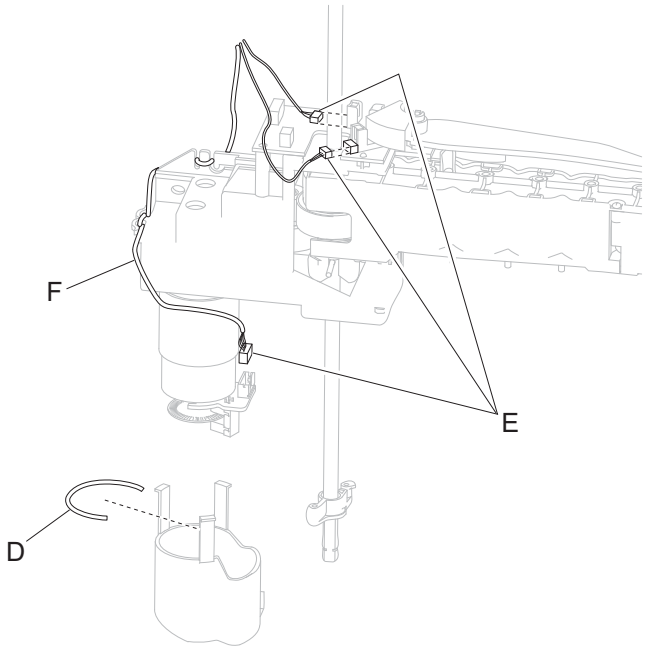
1. Remove the media tray from the machine.
2. Place the machine on the left or right side.
3. Remove the spring (A).
4. Remove the two E-clips (B) securing the pick arm assembly to the machine.



5. Remove the screw (C) securing the pick arm assembly to the machine.



6. Remove the band (D) from the pick arm assembly.
7. Remove the cover from the pick arm assembly.
8. Remove the three connections (E) from the pick arm assembly.
9. Remove the wiring harness (F) from the pick arm assembly.



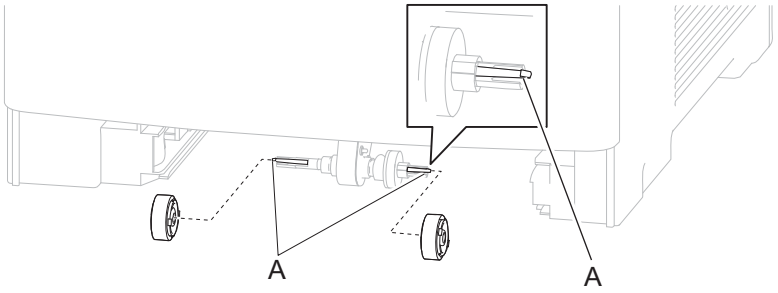
10. Remove the pick arm assembly.

Replacement Warning: When replacing the pick arm assembly, ensure that the harnesses are properly re-routed.

Replacement Warning: When replacing the pick arm assembly, ensure that the connections are properly replaced.

Pick roll assembly removal

1. Remove the media tray.
2. Gently pull the pick arm assembly down, and release the two hooks (A) securing the two pick roll assemblies.

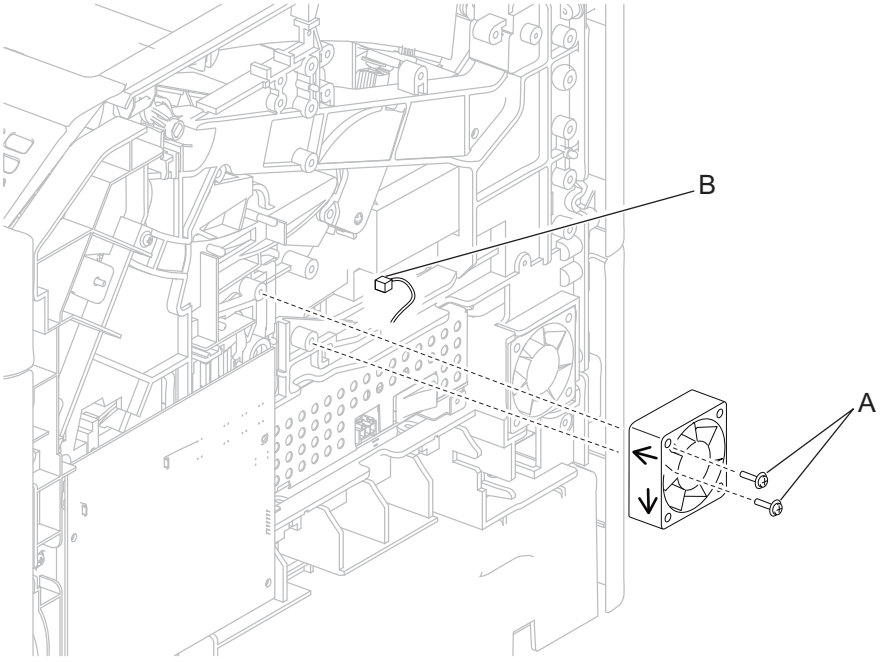


3. Remove the two pick roll assemblies.

Replacement Warning: When replacing the pick roll assembly, do not touch the rubber surface.

Print cartridge cooling fan removal

1. Remove the side cover, right. See **"Side cover, right removal (models X651, X652/5535dn, X654, and X656)" on page 4-122** or **"Side cover, right removal (model X658)" on page 4-121**.
2. Remove the screw (A) securing the print cartridge cooling fan to the machine.
3. Remove the print cartridge cooling fan.
4. Disconnect the connection (B) from the print cartridge cooling fan.

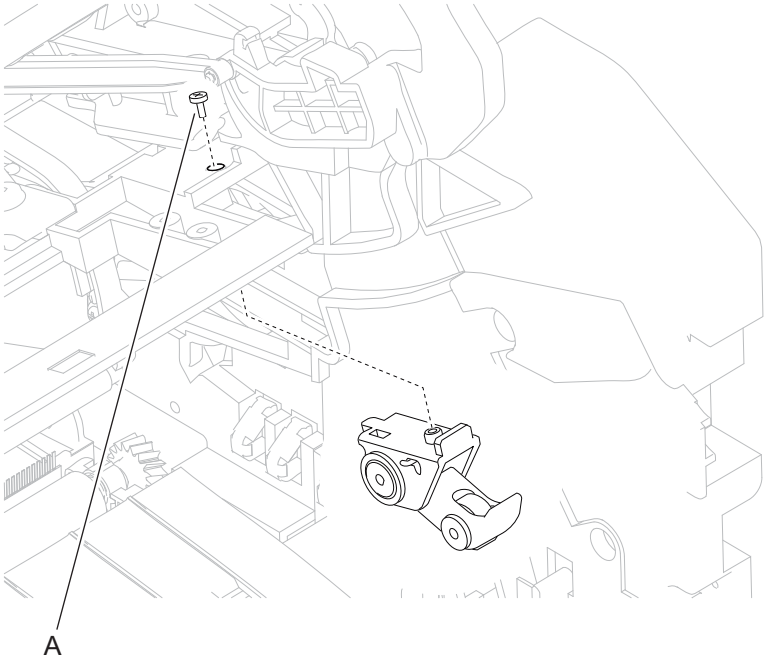


Replacement Warning: When replacing the print cartridge cooling fan, ensure that it is installed as shown in the picture.

Print cartridge clamp assembly removal

Note: This procedure can be applied to the left or right printer cartridge hold down assembly.

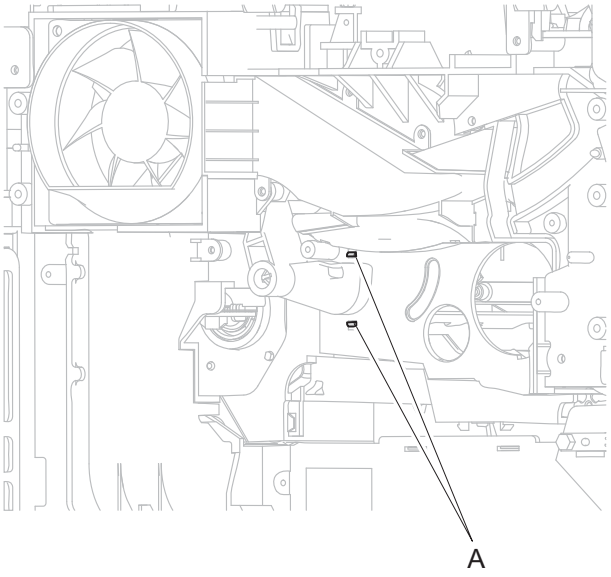
1. Remove the laser cover. See **"Laser cover removal (models X651, X652/5535dn, X654, and X656)" on page 4-106** or **"Laser cover removal (model X658)" on page 4-104**.
2. Remove the screw (A) securing the print cartridge clamp assembly to the machine.



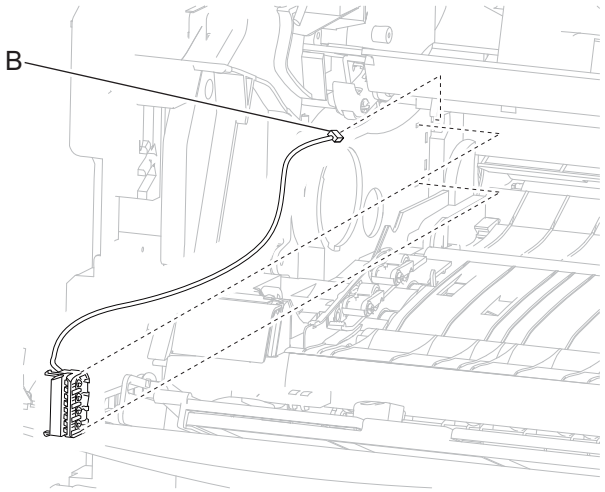
3. Remove the print cartridge clamp assembly.

Print cartridge ID connector assembly removal

1. Remove the print cartridge.
2. Remove the main drive motor assembly. See **“Main drive motor assembly removal” on page 4-20**.
3. Release the two hooks (A) securing the print cartridge ID connector assembly to the machine.



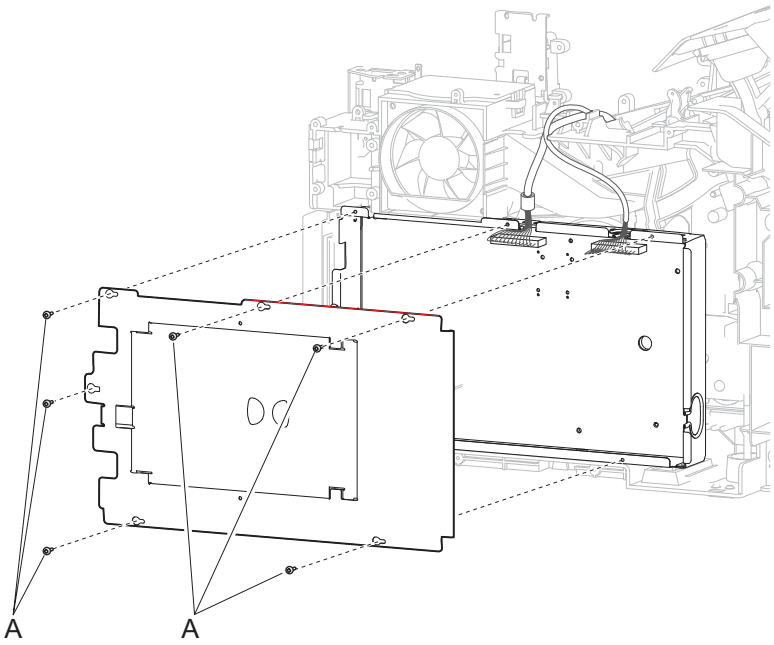
4. Remove the print cartridge ID connector assembly.
5. Disconnect the connection (B) from the print cartridge ID connector assembly.



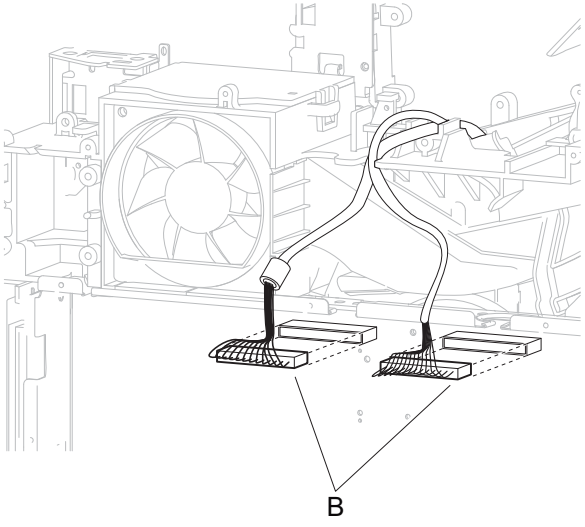
Printhead assembly removal

WARNING: When replacing the printhead assembly, ensure that the printhead skew is properly adjusted, or print quality issues will occur. See **"Polygon printhead mechanical registration adjustment" on page 4-2**.

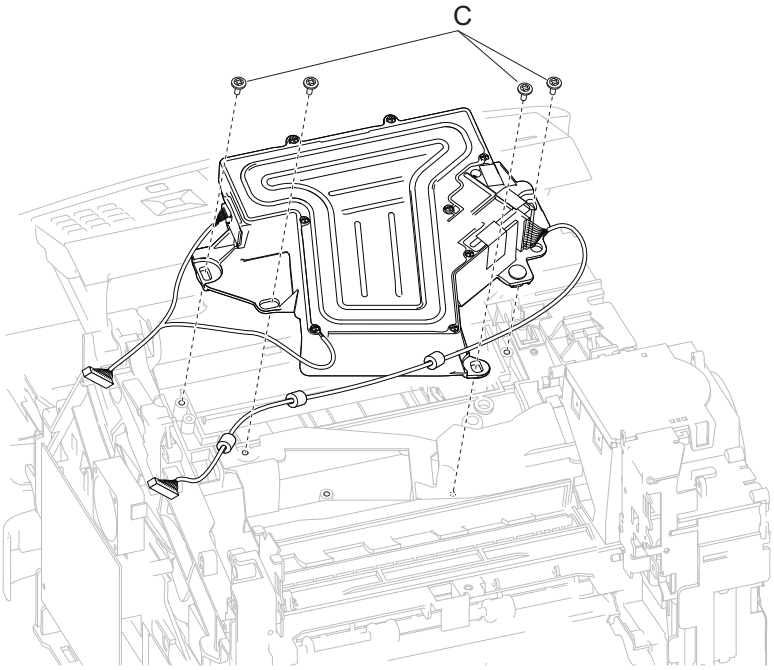
1. Remove the laser cover. See **"Laser cover removal (models X651, X652/5535dn, X654, and X656)" on page 4-106** or **"Laser cover removal (model X658)" on page 4-104**.
2. Remove the six screws (A) securing the metal cover to the machine.



3. Remove the metal cover.
4. Disconnect the connections (B) from the printhead assembly.



5. Remove the four screws (C) securing the printhead assembly to the machine.

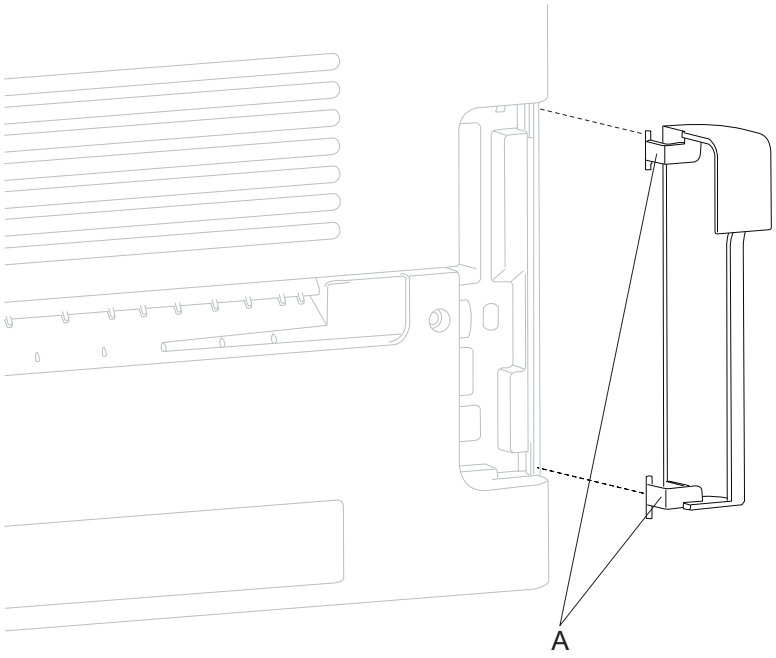


6. Remove the printhead assembly.

Replacement Warning: When replacing the printhead assembly, ensure that the printhead skew is properly adjusted, or print quality issues will occur. See **"Polygon printhead mechanical registration adjustment" on page 4-2**.

Connection access cover, rear removal

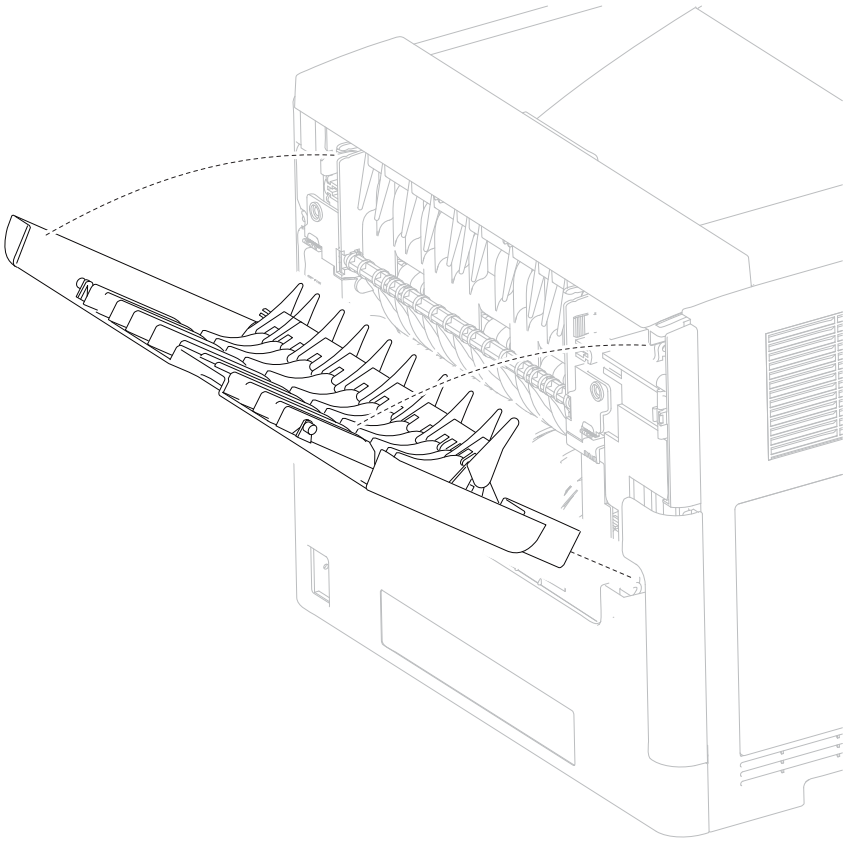
1. Gently detach the two hinges (A) of the connection access cover, rear from the machine.



2. Remove the connection access cover, rear.

Door assembly, rear removal

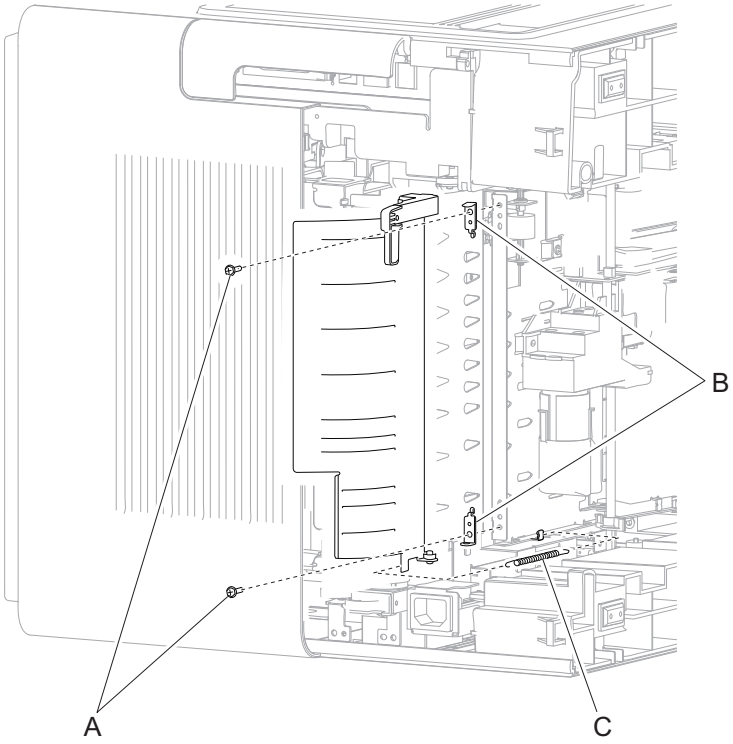
1. Pull the door assembly, rear away from the machine.
2. Twist the door strap left or right until vertical, and pull the strap out of the slot.
3. Position the door assembly, rear at a 45° angle as shown in the picture.
4. Remove the door assembly, rear.



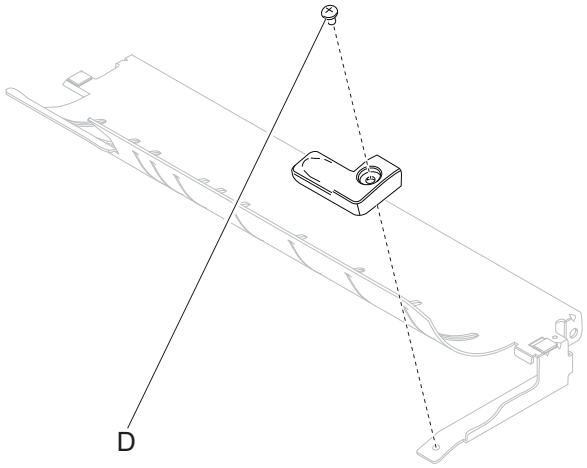
Duplex guide assembly, rear removal

1. Remove the cover assembly, rear lower. See **“Cover assembly, rear lower (X654, X656, and X658)” on page 4-38**.
2. Remove the media tray.
3. Gently place the printer on its left or right side.
4. Remove the two screws (A) securing the two retainers (B) to the machine.
5. Remove the two retainers (B).

6. Detach the rear duplex guide spring (C).



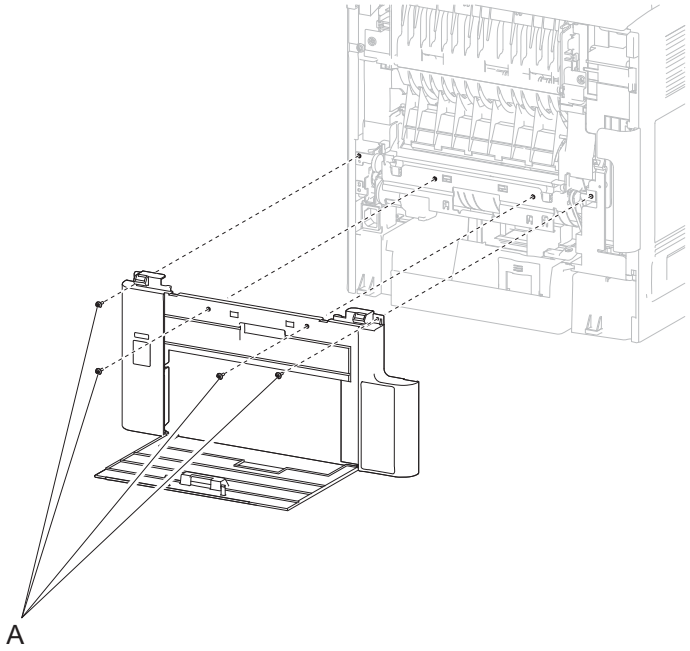
7. Remove the duplex guide assembly, rear.
8. Remove the screw (D) securing the rear duplex guide handle to the assembly.



9. Remove the duplex guide assembly, rear.

Cover assembly, rear lower (X654, X656, and X658)

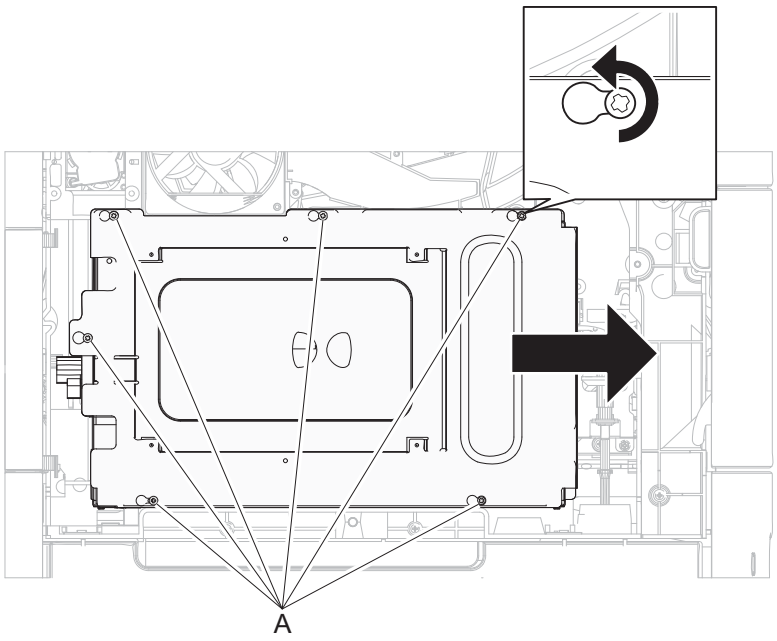
1. Open the rear lower door.
2. Remove the four screws (A) securing the cover assembly, rear lower to the machine.



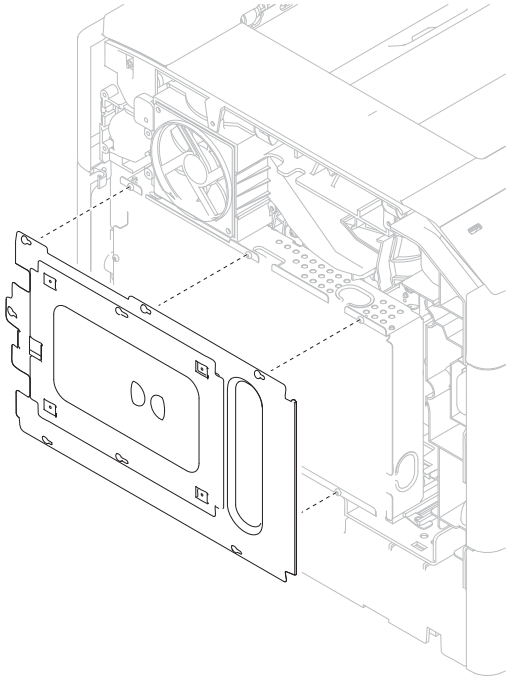
3. Remove the cover assembly, rear lower.

Redrive motor assembly removal

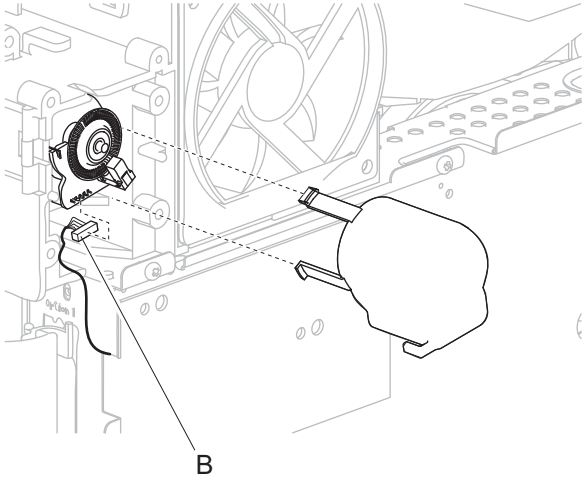
1. Remove the laser cover. See **"Laser cover removal (models X651, X652/5535dn, X654, and X656)" on page 4-106** or **"Laser cover removal (model X658)" on page 4-104**.
2. Remove the six screws (A) securing the metal cover to the machine.



3. Remove the metal cover.

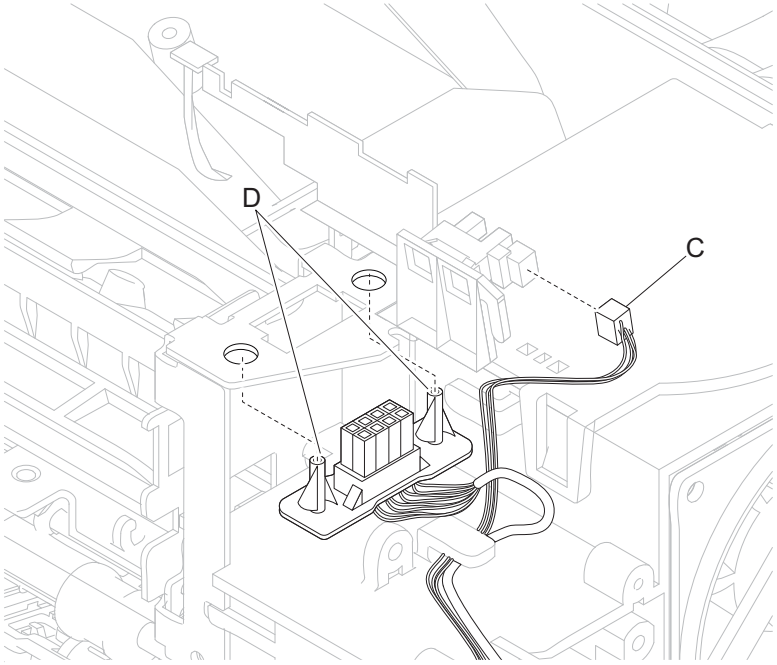


4. Disconnect the connection (B) from the redrive motor assembly.

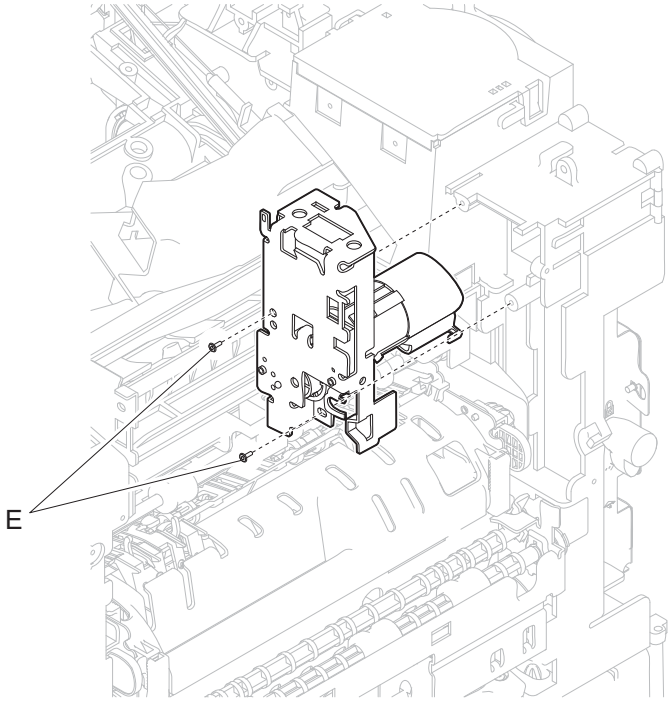


5. Disconnect the connection (C) from the sensor (standard media bin full).

6. Release the hooks (D) securing the output option interface cable assembly to the machine.



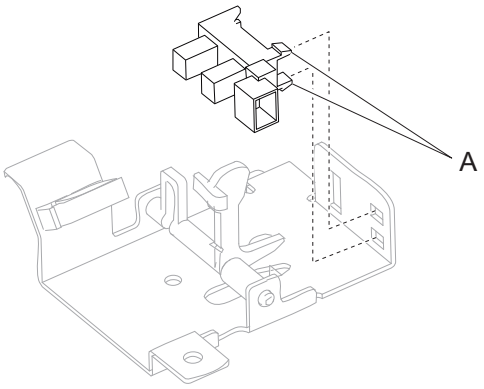
7. Detach the output option cable assembly.
8. Remove the two screws (E) securing the redrive motor assembly to the machine.



9. Remove the redrive motor assembly.

Sensor (duplex input) removal

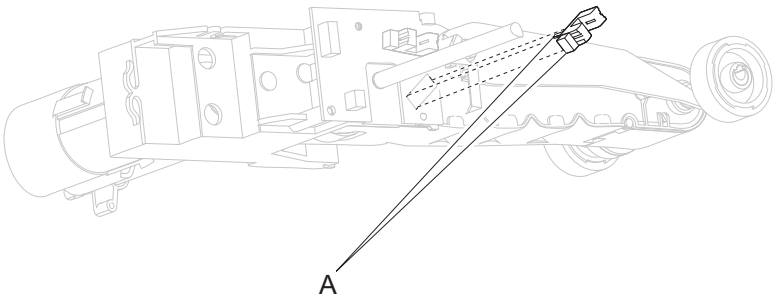
1. Remove the duplex input sensor assembly. See **“Duplex input sensor assembly removal” on page 4-10**.
2. Release the hooks (A) securing the senor (duplex media path) to the bracket.



3. Remove the sensor (duplex input).

Sensor (media low) removal

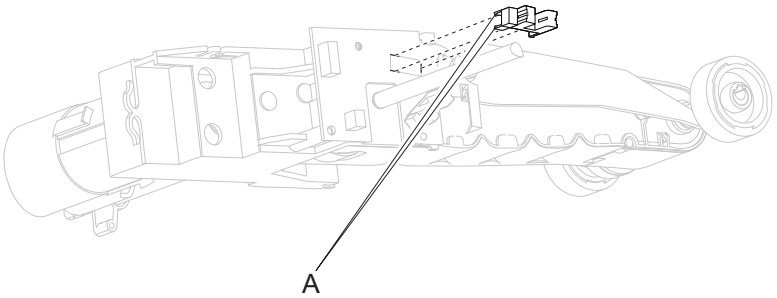
1. Remove the pick arm assembly. Go to **“Pick arm assembly removal” on page 4-29**.
2. Release the hooks (A) securing the sensor (media low) to the assembly.



3. Remove the sensor (media low).

Sensor (media empty) removal

1. Remove the pick arm assembly. See **“Pick arm assembly removal” on page 4-29**.
2. Release the hooks (A) securing the sensor (media empty) to the assembly.

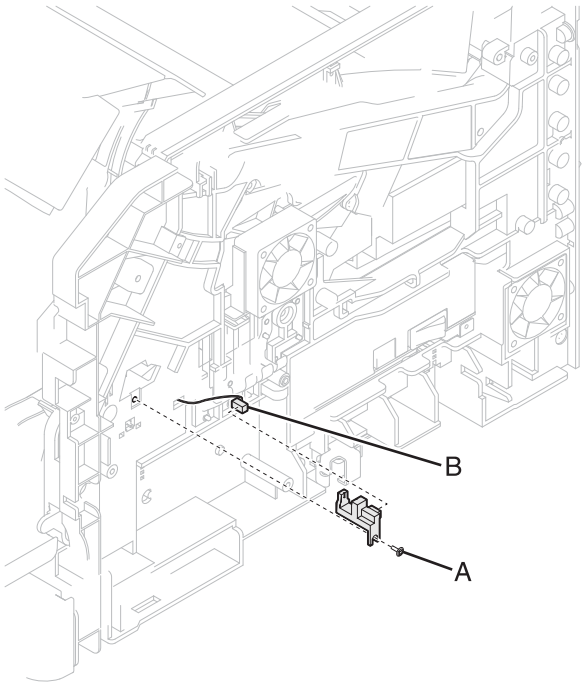


3. Remove the sensor (media empty).

Sensor (toner empty) removal

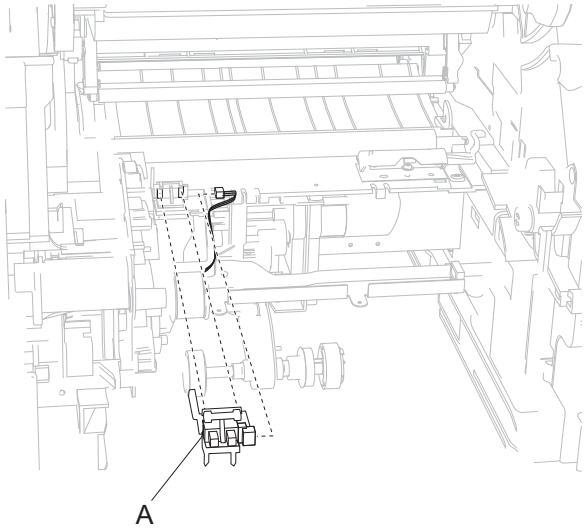
1. Remove the HVPS card assembly. See **“HVPS card assembly removal” on page 4-17**.

2. Remove the screw (A) securing the sensor (toner empty) to the machine.
3. Remove the sensor (toner empty).
4. Disconnect the connection (B) from the sensor (toner empty).



Sensor (input) removal

1. Remove the inner deflector. See **"Inner deflector removal" on page 4-17**.
2. Release the hooks (A) securing the sensor (input) to the machine.

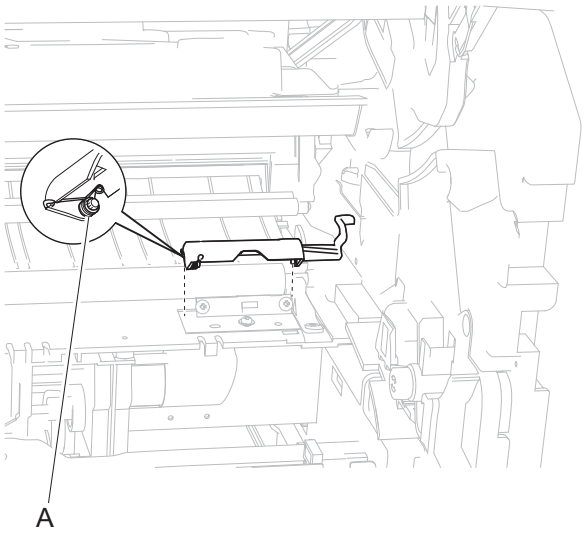


3. Remove the sensor (input).
4. Disconnect the connection (B) from the sensor (input).

Sensor shield assembly removal

1. Remove the inner deflector. See **"Inner deflector removal" on page 4-17**.

2. Gently unsnap the sensor shield assembly from the machine.

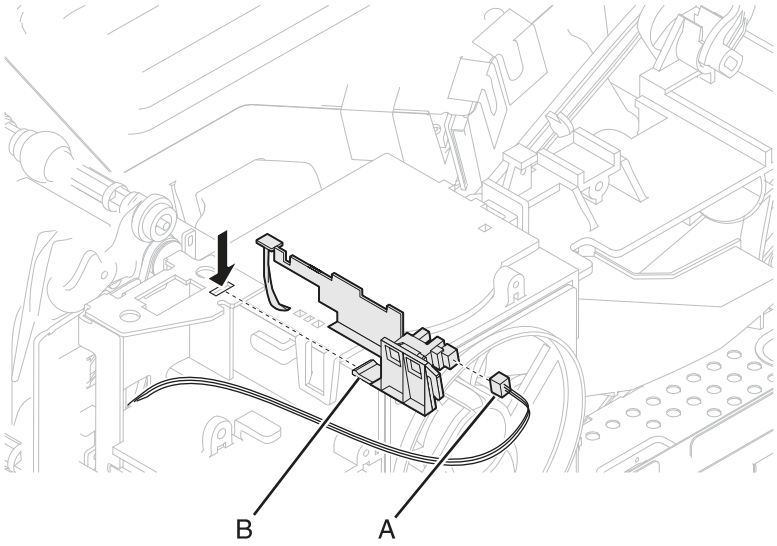


3. Remove the sensor shield assembly.

Replacement Warning: When replacing the sensor shield assembly, ensure that the spring (A) is properly aligned and the sensor shield assembly opens and closes properly.

Standard bin actuator assembly removal

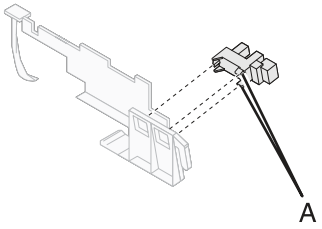
1. Remove the laser cover. See **“Laser cover removal (models X651, X652/5535dn, X654, and X656)” on page 4-106** or **“Laser cover removal (model X658)” on page 4-104**.
2. Disconnect the connection (A) from the standard bin actuator assembly.
3. Press the tab (B) to release the standard bin actuator assembly from the machine.



4. Remove the standard bin actuator assembly.

Sensor (standard bin exit) actuator removal

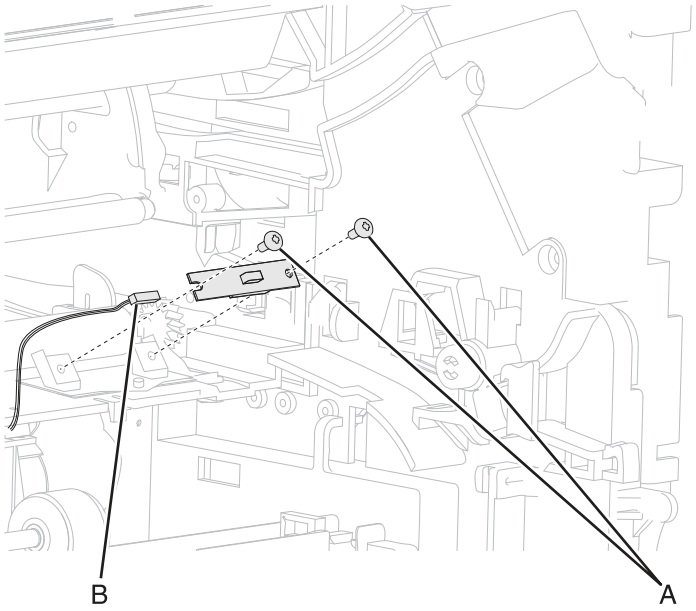
1. Release the hooks (A) securing the sensor (standard bin exit) actuator to the assembly.



2. Remove the sensor (standard bin exit) actuator.

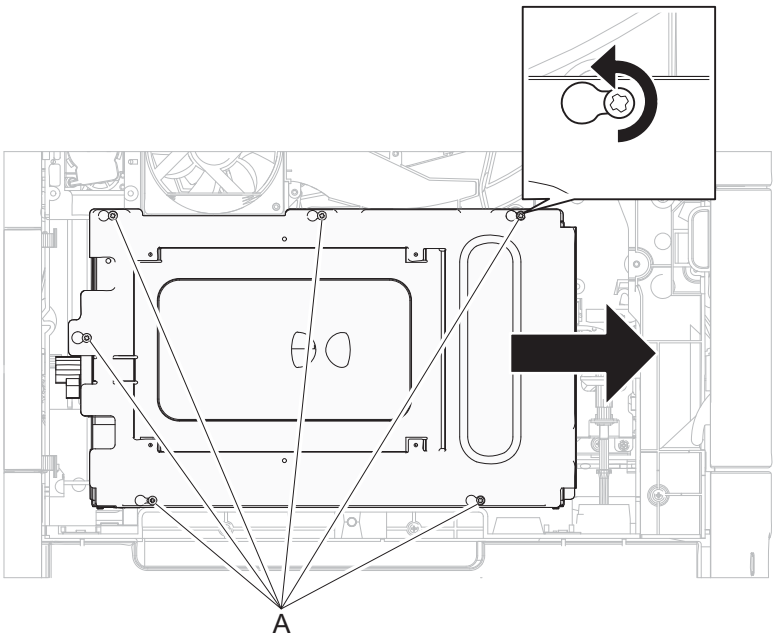
Sensor (toner density) removal

1. Remove the sensor shield assembly. See **"Sensor shield assembly removal" on page 4-42**.
2. Remove the two screws (A) securing the sensor (toner density) to the machine.
3. Remove the sensor (toner density).
4. Disconnect the connection (B) to the sensor (toner density).



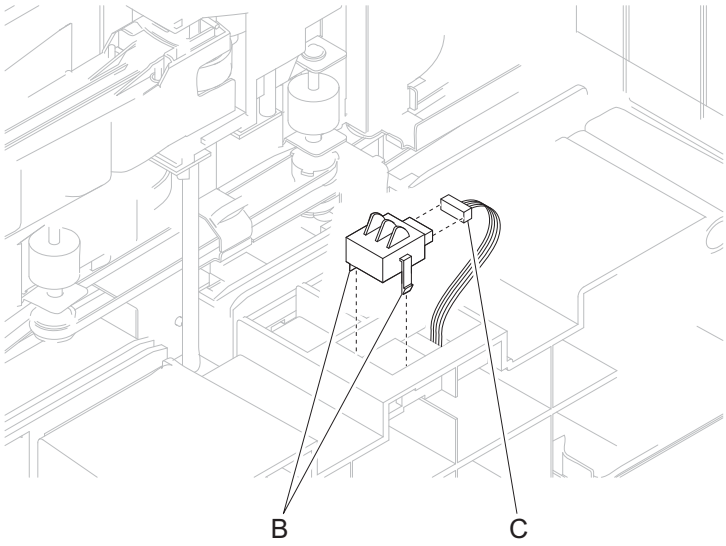
Switch (media size) assembly removal

1. Remove the side cover, left. See **"Side cover, left removal (models X651, X652/5535dn, X654, and X656)" on page 4-123** or **"Side cover, left removal (model X658)" on page 4-123**.
2. Remove the six screws (A) securing the metal cover to the machine.



3. Remove the metal cover.
4. Remove the media tray.

5. Gently place the machine on the left of right side.
6. Release the two hooks (B) securing the switch (media size) assembly to the machine.

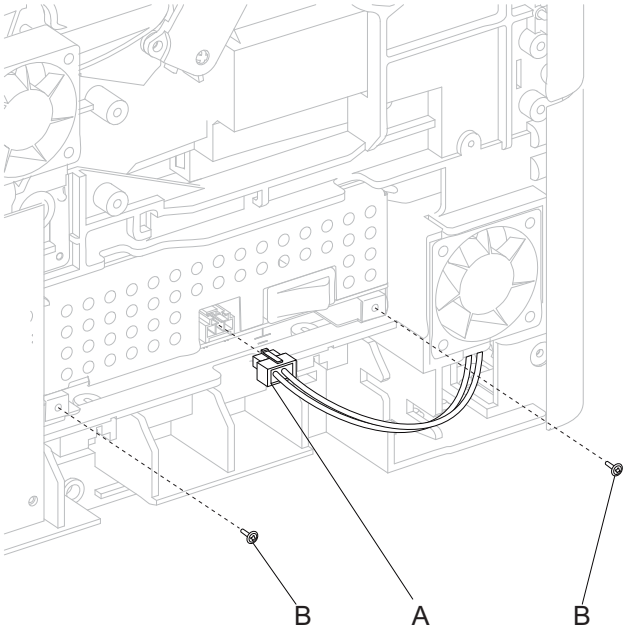


7. Remove the switch (media size) assembly.
8. Disconnect the connection (C) from the switch (media size) assembly.

LVPS card assembly removal

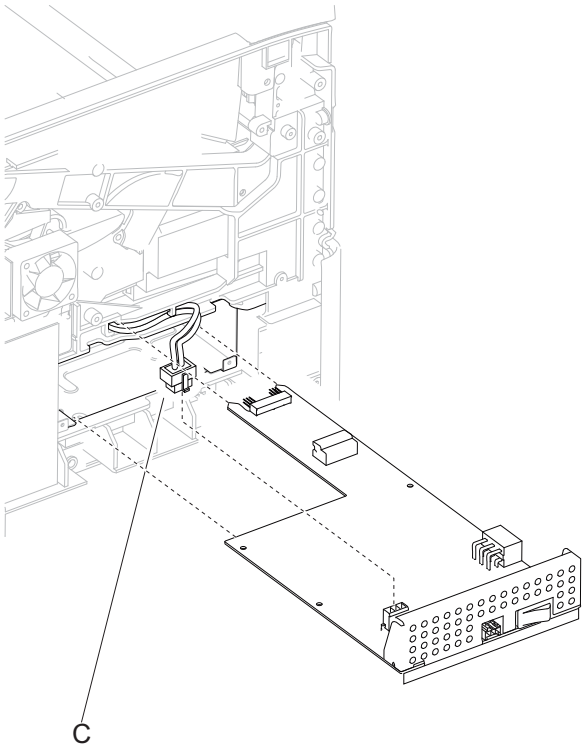
WARNING: When replacing the LVPS card assembly, ensure that the voltage selection switch is set to the proper setting, or damage will occur.

1. Remove the door assembly, rear. See **"Door assembly, rear removal" on page 4-36**.
2. Remove the side cover, right. See **"Side cover, right removal (models X651, X652/5535dn, X654, and X656)" on page 4-122** or **"Side cover, right removal (model X658)" on page 4-121**.
3. Disconnect the connector (A) from the LVPS card assembly.
4. Remove the two screws (B) from the LVPS card assembly.



5. Gently pull the LVPS card assembly from the machine.

6. Disconnect the connector (C) from the LVPS card assembly.

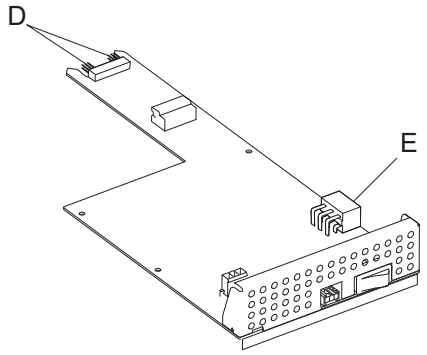


7. Remove the LVPS card assembly.

Replacement Warning: When replacing the LVPS card assembly, ensure that all connections are replaced.

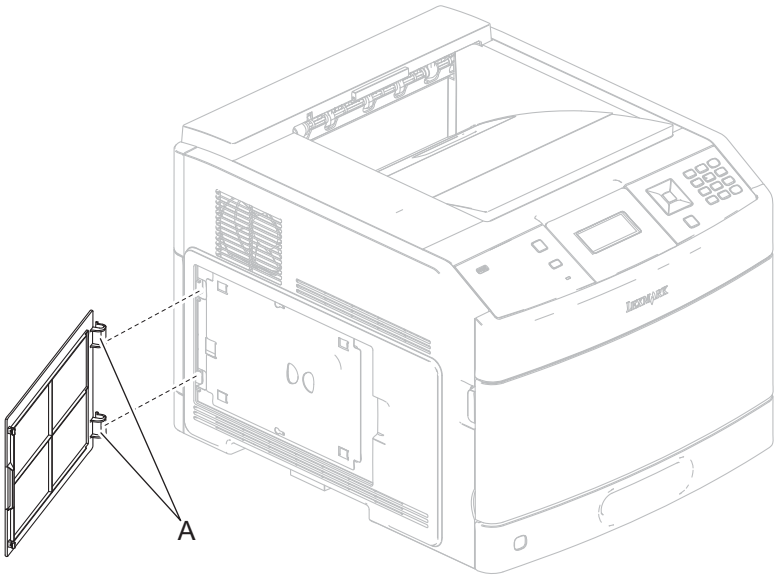
Replacement Warning: When replacing the LVPS card assembly, ensure that the connector pins (D) properly engage the system card.

Replacement Warning: When replacing the LVPS card assembly, ensure that the voltage selection switch (E) is set to the proper setting, or damage will occur.



Access door removal

1. Open the access door.
2. Gently detach the two hinges (A) of the access door from the machine.



3. Remove the access door.

System card assembly removal

CAUTION

This product contains a lithium battery. THERE IS A RISK OF EXPLOSION IF THE BATTERY IS REPLACED BY AN INCORRECT TYPE. Discard used batteries according to the battery manufacturer's instructions and local regulations.

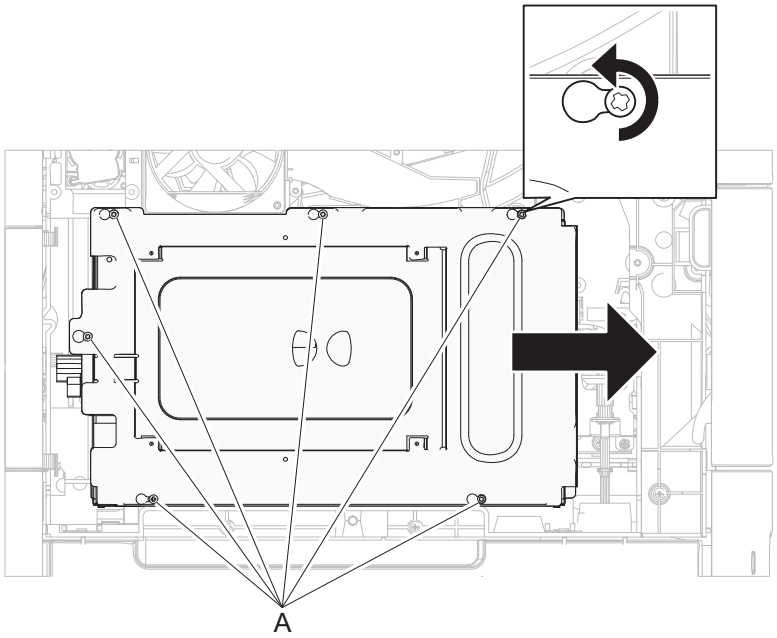
Warning: When replacing any of the following components:

- Scanner interface card assembly
- System card assembly
- Scanner unit assembly

Only replace one component at a time. replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

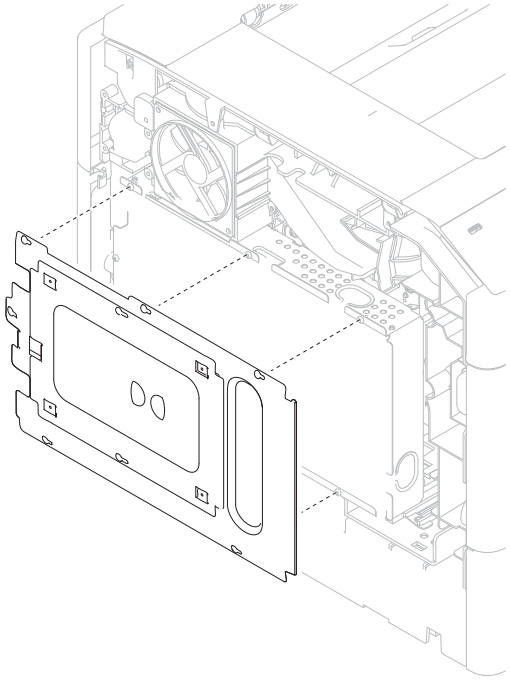
Warning: These components can be used as a method of troubleshooting as long as the machine is booted into diagnostic mode or is operating in diagnostic mode. Once a component has been installed in a machine and powered up into user mode, it cannot be used in another machine. It must be returned to the manufacturer.

1. Remove the side cover, left. See **"Side cover, left removal (models X651, X652/5535dn, X654, and X656)" on page 4-123** or **"Side cover, left removal (model X658)" on page 4-123**.
2. Remove the six screws (A) securing the metal shield to the machine.



3. Slide the metal shield in the direction of the arrow.

4. Remove the metal shield.



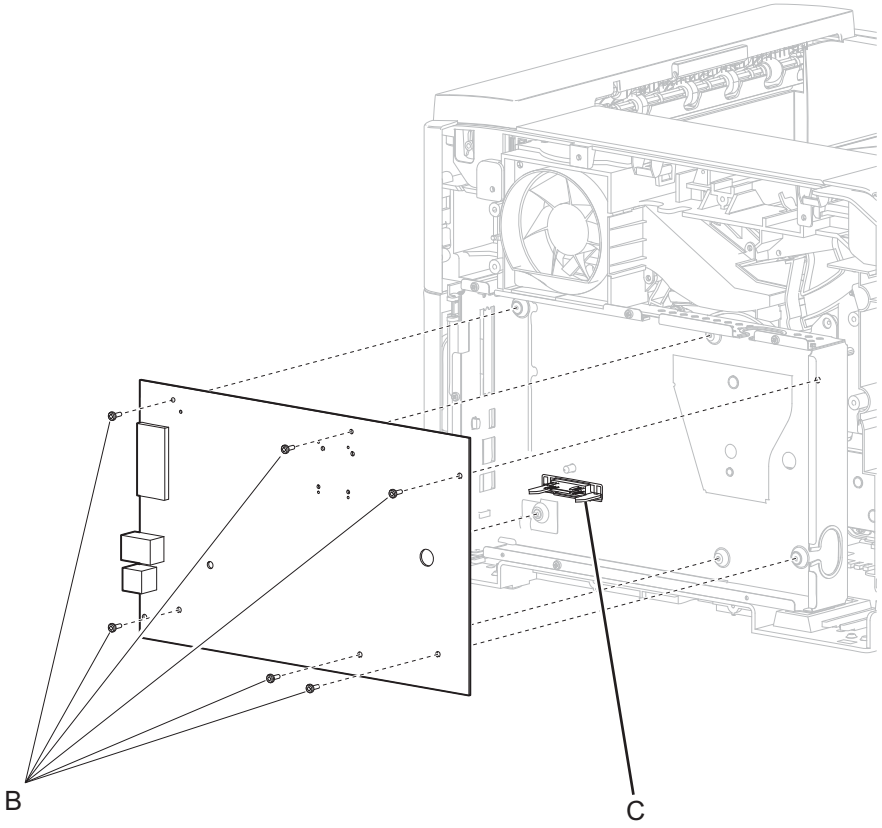
WARNING: When disconnecting all the electrical connections, ensure that the connectors and harnesses do not become damaged.

5. Disconnect all connections from the system card assembly.

Note: There are two fine thread screws and four course thread screws securing the system card assembly to the machine, ensure that these screws are properly reinstalled.

6. Remove the six screws (B) securing the system card assembly to the machine.

WARNING: When removing the system card assembly from the machine, ensure that the LVPS assembly connection (C) does not become damaged.



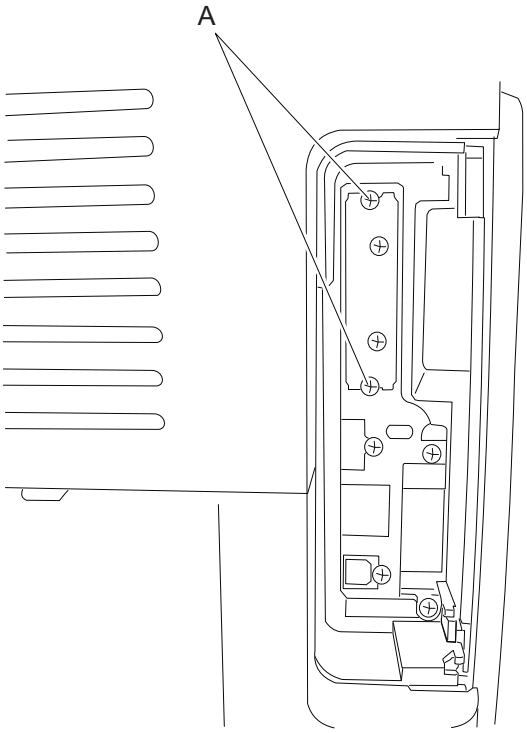
7. Remove the system card assembly.
8. Remove any remaining screws securing the system card assembly to the metal box.
9. Remove the system card assembly.

Replacement Warning: Ensure that all ground wires are properly replaced.

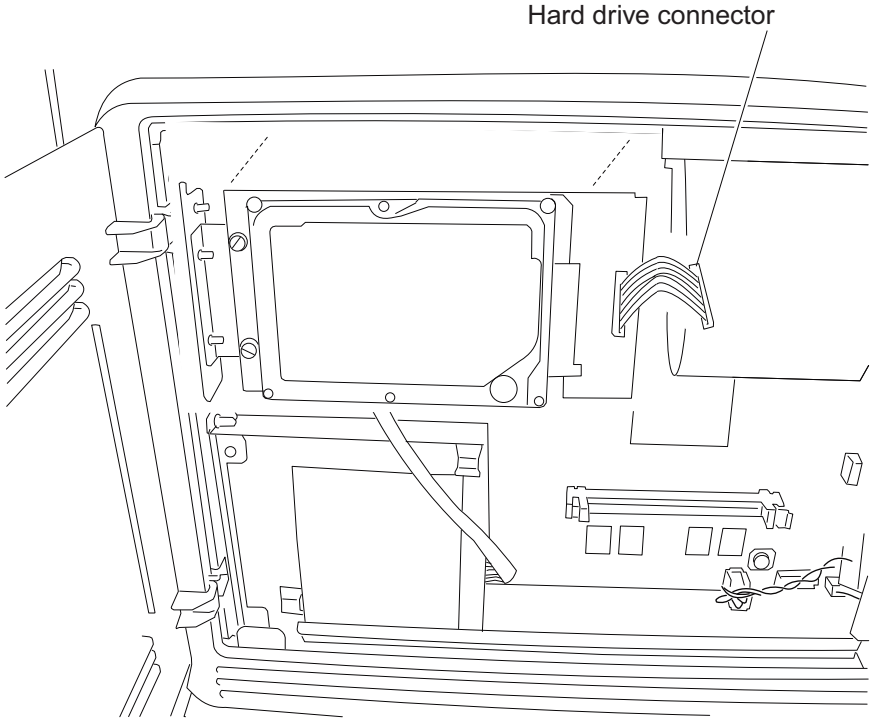
Replacement Warning: When replacing the system card assembly, ensure that the LVPS assembly connections (C) are properly aligned and inserted into the system card assembly, or damage will occur.

Hard drive removal

1. Remove the side cover, left. See **“Side cover, left removal (model X658)” on page 4-123**.
2. Loosen the two screws (A) securing the hard drive to the rear of the machine.



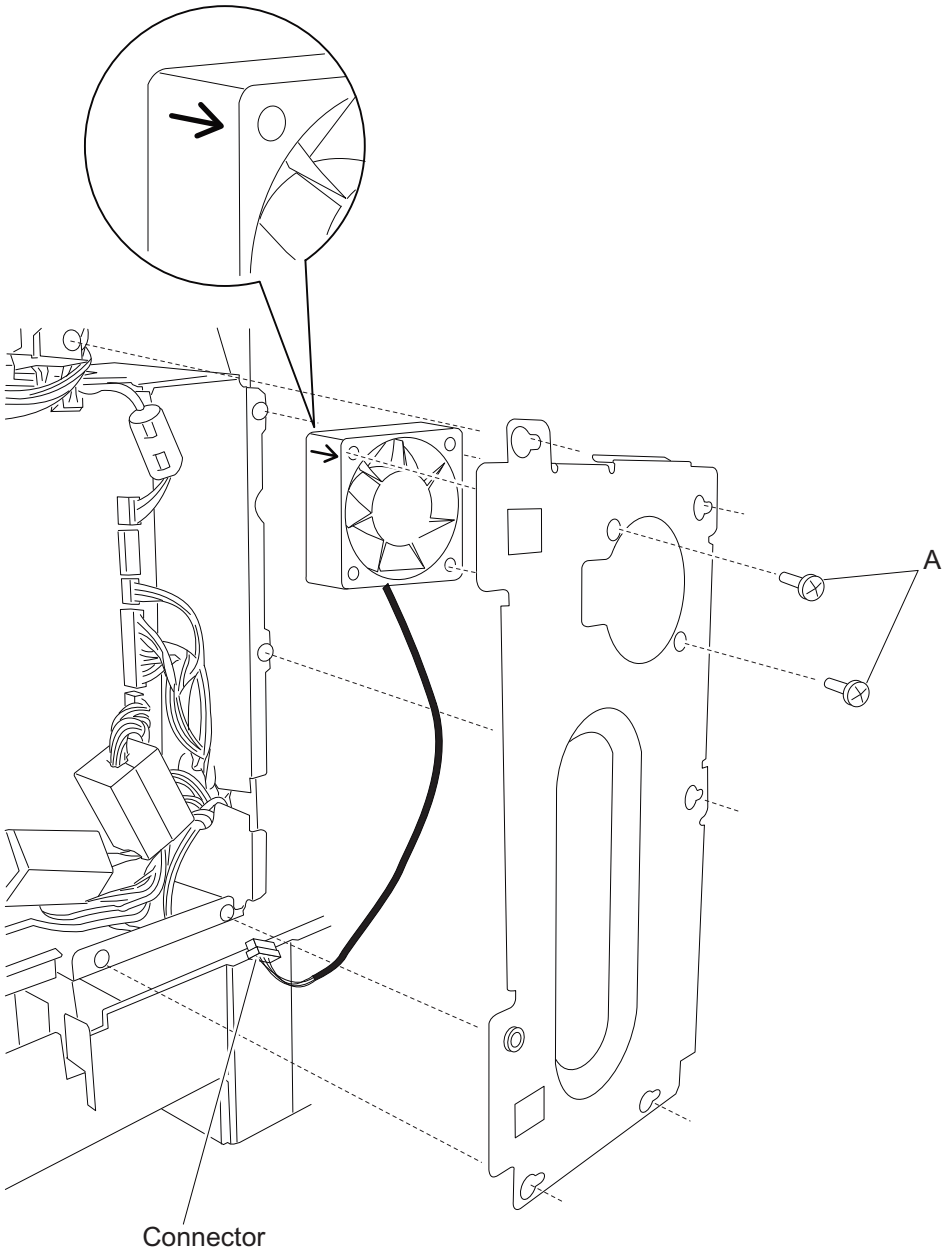
3. Remove the system card metal plate.
4. Gently detatch the hard drive from the system card.



5. Disconnect the connector from the system card.

Hard drive cooling fan removal

1. Remove the side cover, left. See **"Side cover, left removal (model X658)" on page 4-123**.
2. Remove the system card metal plate.
3. Loosen the five screws securing the fan mounting bracket to the machine.
4. Remove the fan mounting bracket.
5. Remove the two screws (A) securing the hard drive cooling fan to the fan mounting bracket.

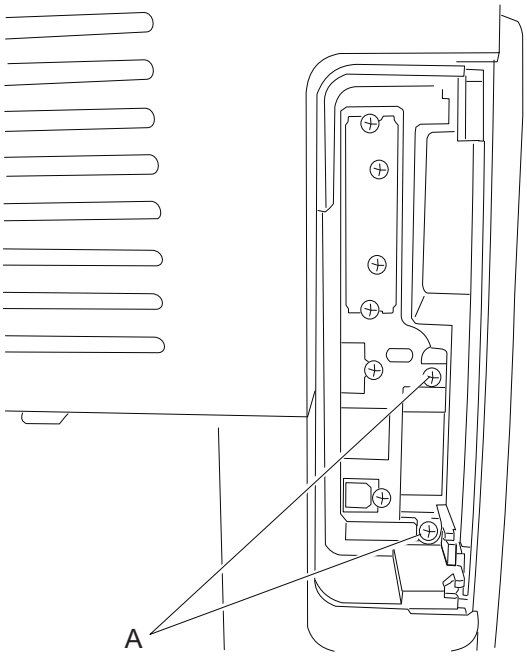


6. Remove the hard drive cooling fan.
7. Disconnect the connector from the system card.

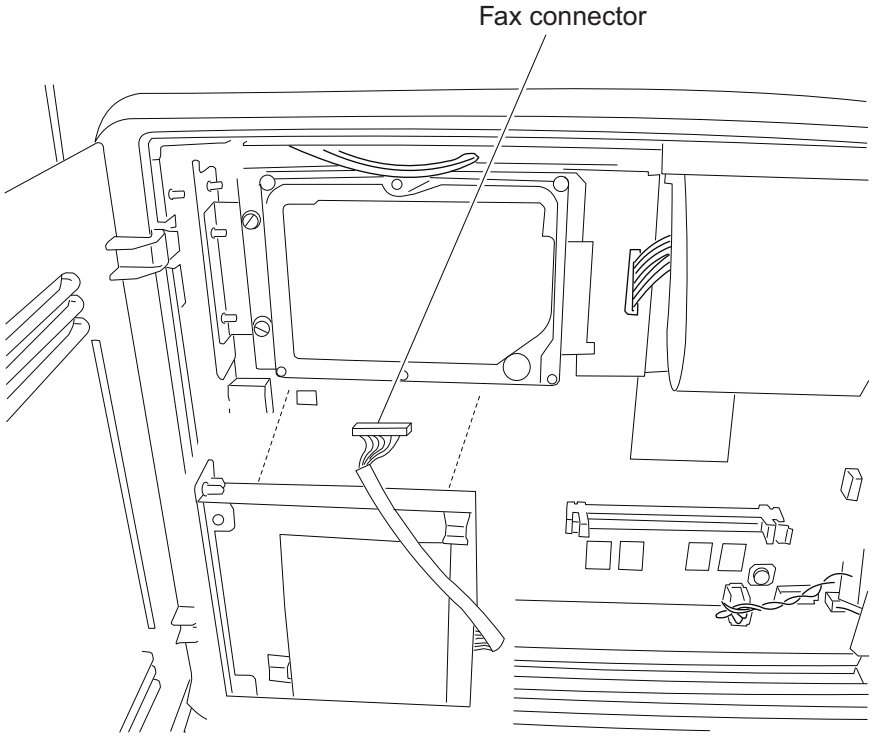
Replacement Warning: When replacing the duplex cooling fan, ensure that it is installed as shown in the picture.

Fax card assembly removal

1. Remove the side cover, left. See **“Side cover, left removal (model X658)” on page 4-123**.
2. Remove the system card metal plate.
3. Loosen the two screws (A) securing the fax card assembly to the rear of the machine.



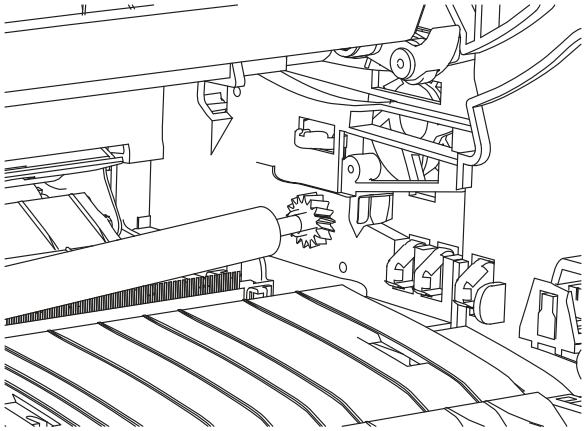
4. Gently detatch the fax card assembly from the machine.



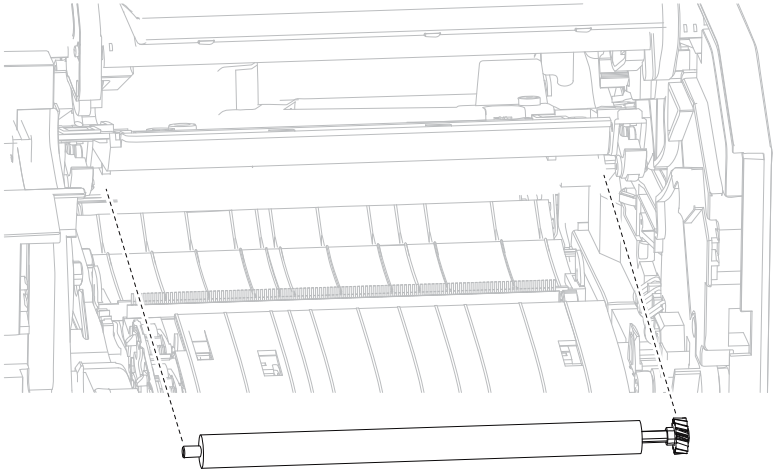
5. Disconnection the connection from the system card.

Transfer roll assembly removal

1. Open the operator panel door assembly.
2. Remove the print cartridge.
3. Gently unsnap the transfer roll assembly from the machine.



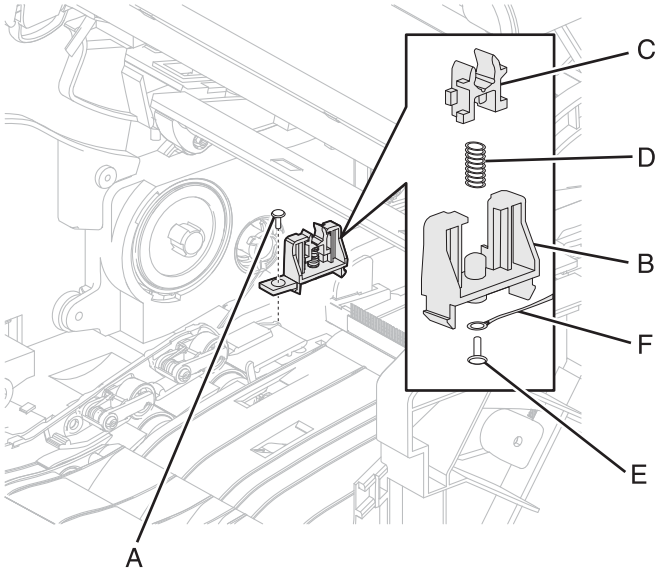
4. Remove the transfer roll assembly.



Replacement Warning: When replacing the transfer roll assembly, do not touch the foam surface.

Transfer roll bracket assembly, left removal

1. Remove the transfer roll assembly. See **"Transfer roll assembly removal" on page 4-56**.
2. Remove the inner deflector. See **"Inner deflector removal" on page 4-17**.
3. Remove the screw (A) securing the transfer roll bracket assembly, left to the machine.
4. Remove the transfer roll bracket assembly, left.
5. Remove the roll clamp (B) from the transfer roll bracket assembly, left.
6. Remove the bushing (C).
7. Remove the spring (D).
8. Remove the screw (E).
9. Remove the ground wire (F).

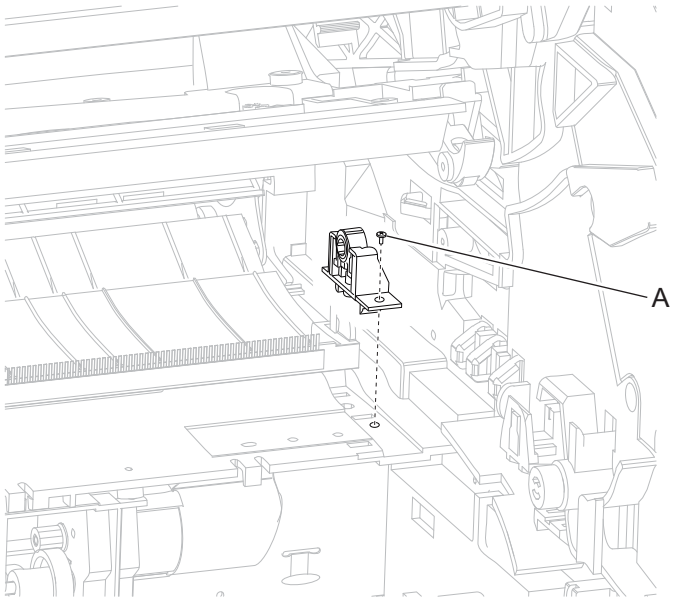


Replacement Warning: When reinstalling the transfer roll bracket assembly, left, ensure that the bushing (C), spring (D), and ground wire (F) are properly replaced.

Transfer roll bracket assembly, right removal

1. Remove the transfer roll assembly. See **"Transfer roll assembly removal" on page 4-56**.
2. Remove the inner deflector. See **"Inner deflector removal" on page 4-17**.

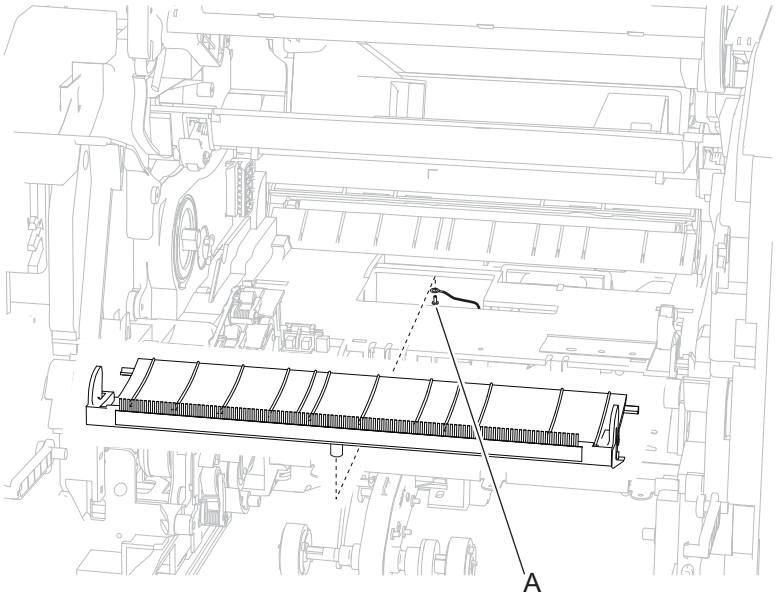
3. Remove the screw (A) securing the transfer roll bracket assembly, right to the machine.



4. Remove the transfer roll bracket assembly, right.

Transfer deflector removal

1. Remove the transfer roll assembly. See **"Transfer roll assembly removal" on page 4-56**.
2. Gently unsnap the transfer deflector from the machine.
3. Remove the transfer deflector.
4. Remove the screw (A) securing the ground wire to the transfer deflector.



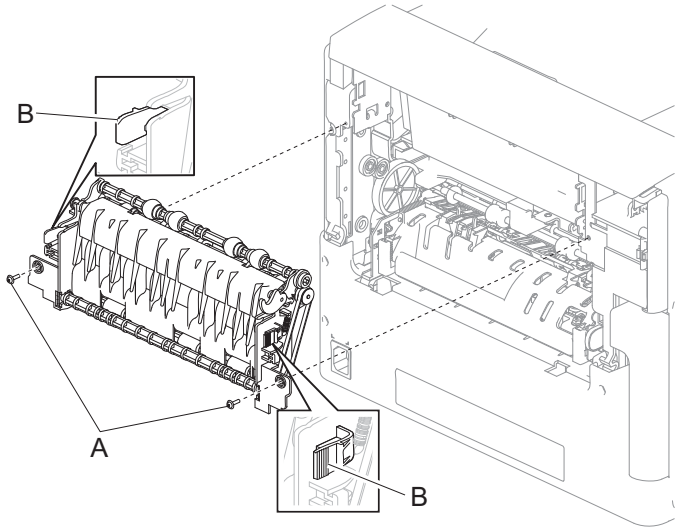
5. Remove the ground wire.

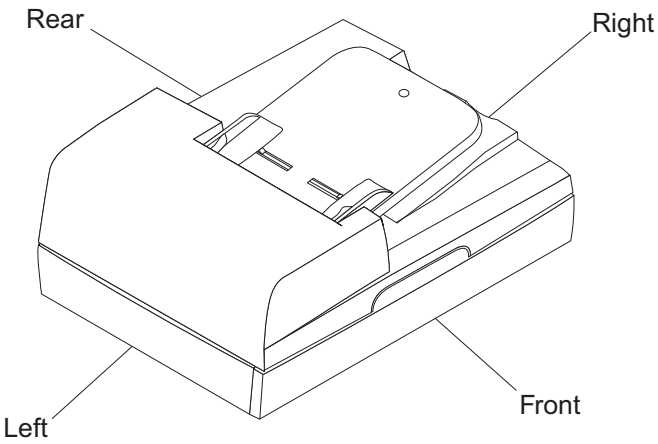
Replacement Warning: When replacing the transfer deflector, ensure that the ground wire is properly replaced.

Redrive assembly removal

1. Remove the door assembly, rear. See **“Door assembly, rear removal” on page 4-36**.
2. Open the fuser access door.
3. Remove the two screws (A) securing the redrive assembly to the machine.
4. Press the two tabs (B) to release the redrive assembly to the machine.

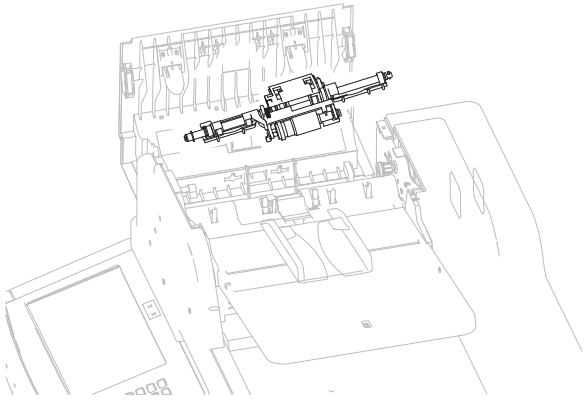
While pressing the two tabs (B), pull the redrive assembly from the machine.





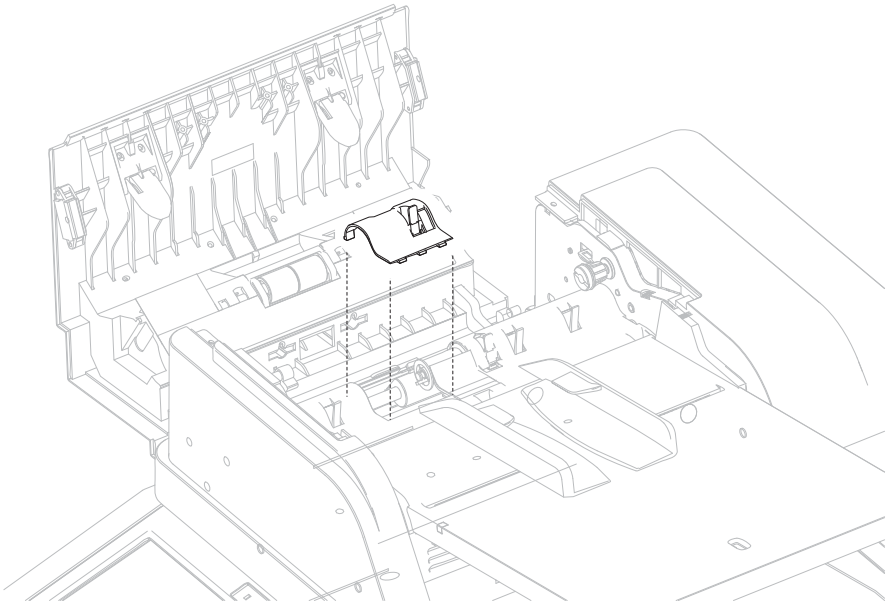
ADF feed / pick roll assembly removal

1. Lift the ADF top door assembly.
2. Slide the ADF pick roll assembly to the front.
3. Lift the rear of the ADF pick roll assembly.
4. Remove the ADF pick roll assembly.

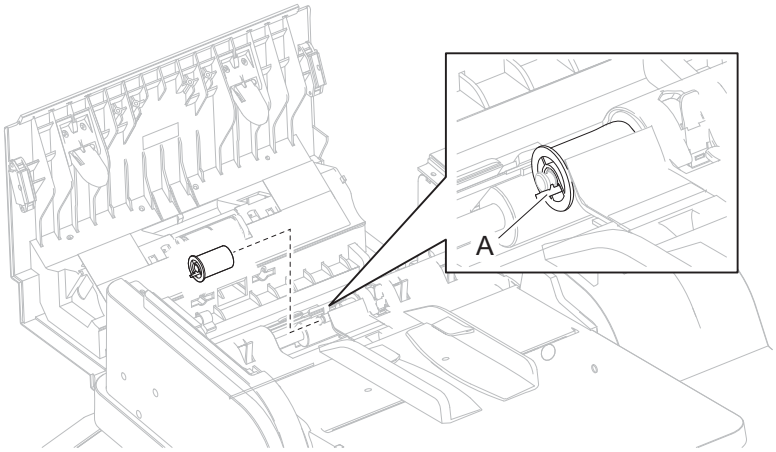


ADF separator roll removal

1. Lift the ADF top door assembly.
2. Remove the ADF feed / pick roll assembly. See **“ADF feed / pick roll assembly removal” on page 4-61**.
3. Remove the access cover.

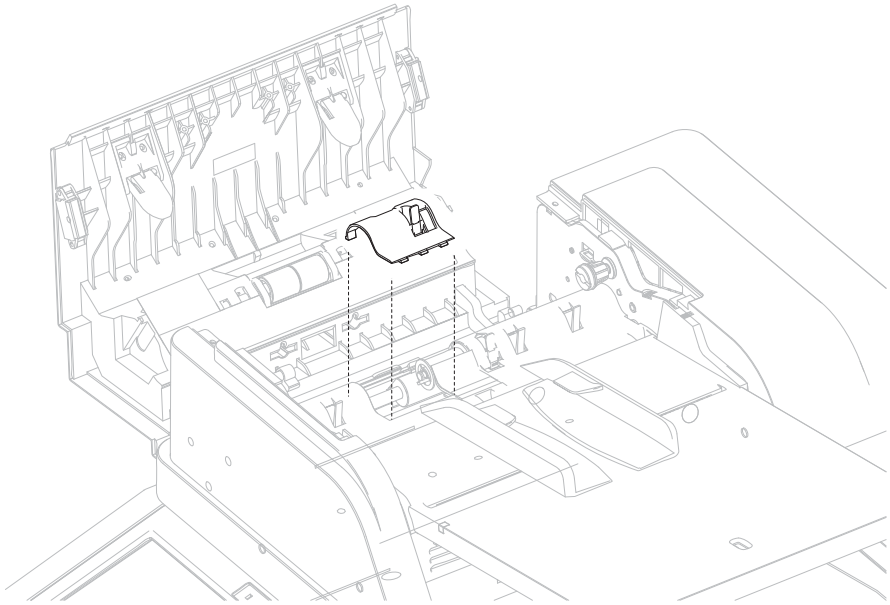


4. Press tab (A), and slide the separator roll off the shaft.

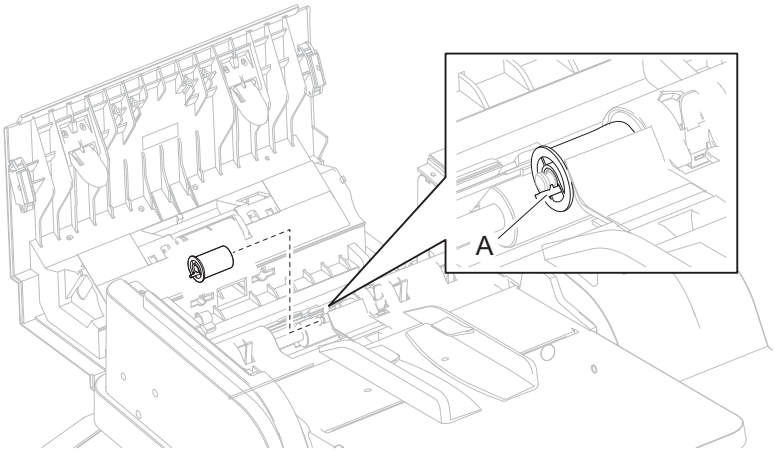


ADF separator torque limiter assembly removal

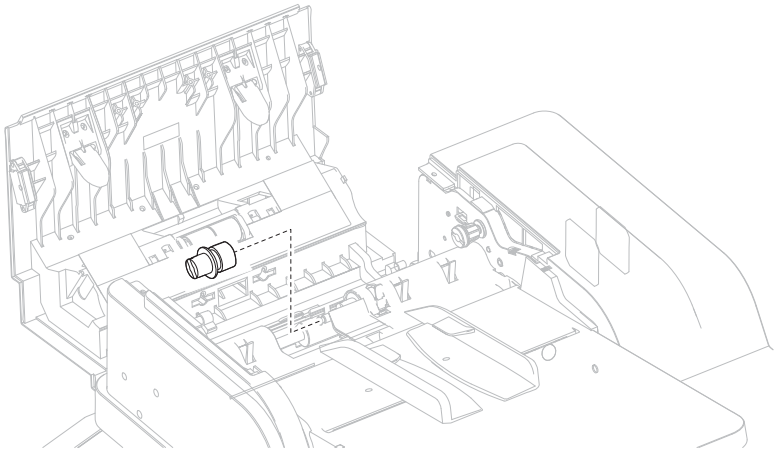
1. Lift the ADF top door assembly.
2. Remove the ADF feed / pick roll assembly. See **“ADF feed / pick roll assembly removal” on page 4-61**.
3. Remove the access cover.



4. Press tab (A), and slide the separator roll off the shaft.

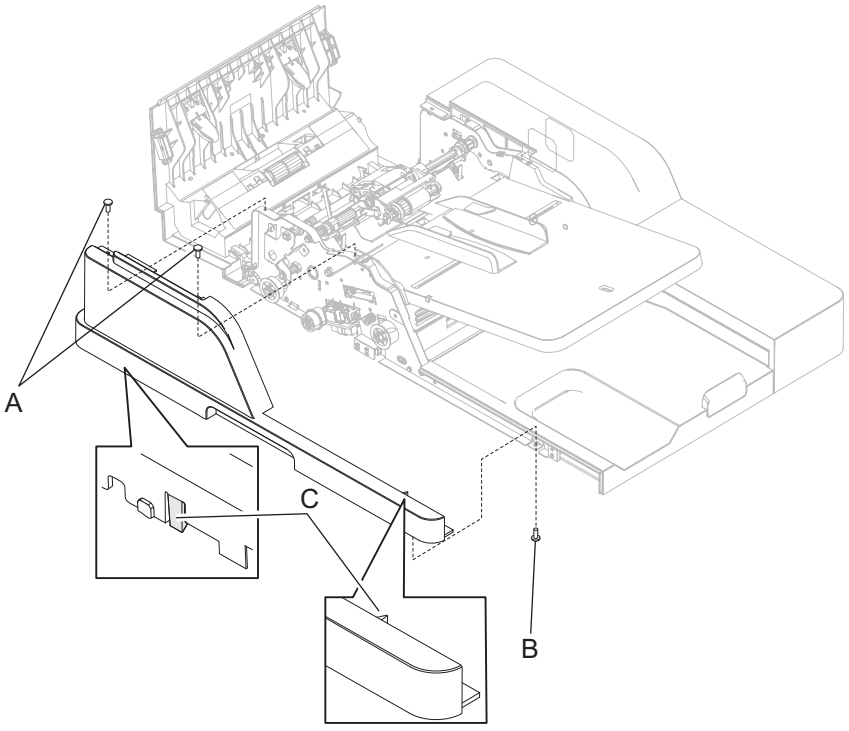


5. Slide the ADF separator torque limiter assembly to the front, and remove.



ADF cover, front removal

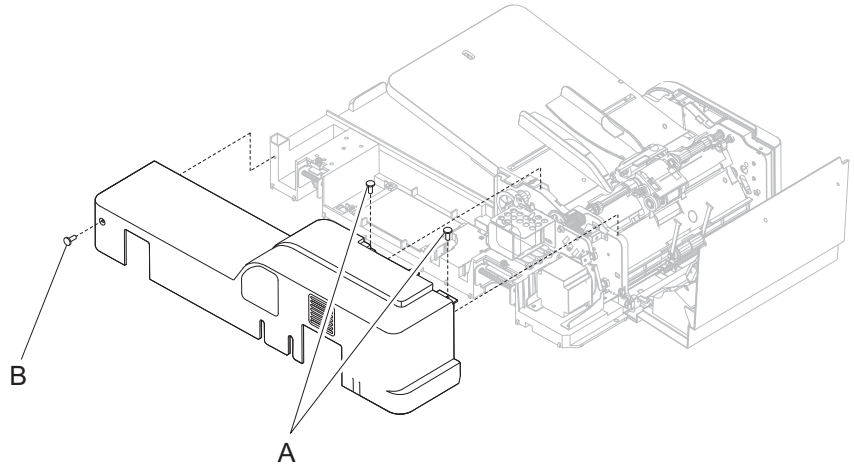
1. Lift the ADF top door assembly.
2. Remove two screws (A) from the top of the front cover assembly.
3. Remove one screw (B) from the bottom of the ADF cover, front.
4. Release the bottom tabs (C) on the ADF cover, front.



5. Remove the ADF cover.

ADF cover, rear removal

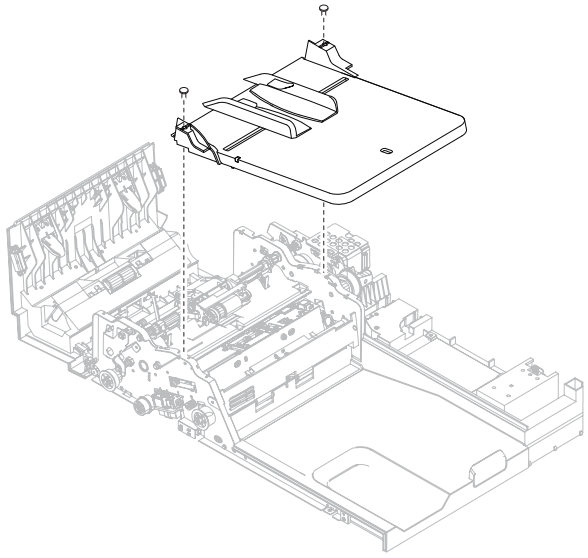
1. Lift the ADF left door cover.
2. Remove two metal screws (A).
3. Remove the plastic screw (B) from the right side of the ADF cover, rear.



4. Remove the ADF cover, rear.

ADF document tray assembly removal

1. Remove the ADF cover, front. See **"ADF cover, front removal" on page 4-64**.
2. Remove the ADF cover, rear. See **"ADF cover, rear removal" on page 4-65**.
3. Remove the two metal screws (A) from the top of the ADF document tray assembly.

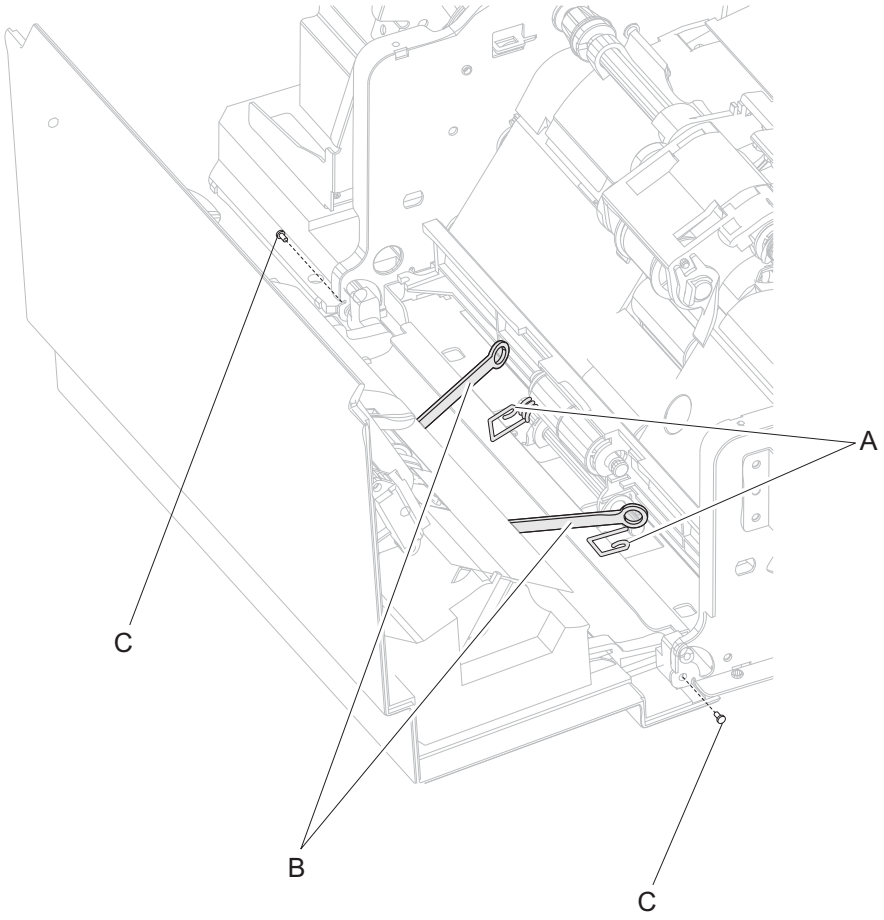


4. Slide the ADF document tray assembly to the right.
5. Disconnect the ADF paper length/width sensors cable.
6. Remove the ADF document tray assembly.

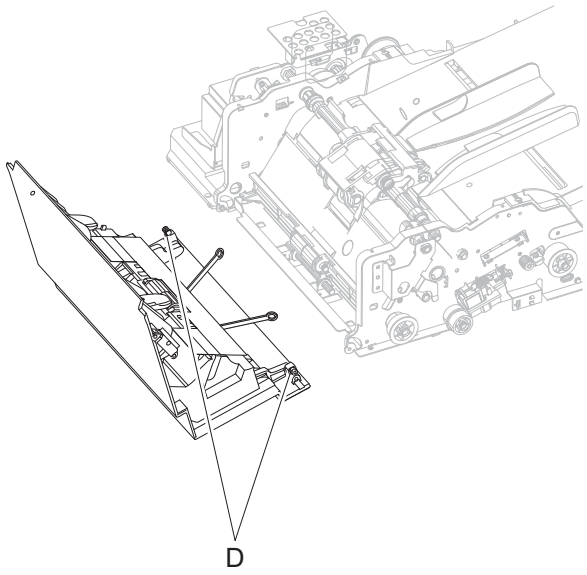
Replacement note: You must adjust skew after reinstalling the document tray assembly. Go to **"Adjusting skew" on page 3-93**.

ADF top door assembly removal

1. Remove the ADF cover, front. See **“ADF cover, front removal” on page 4-64**.
2. Remove the ADF cover, rear. See **“ADF cover, rear removal” on page 4-65**.
3. Lift the ADF top door assembly.
4. Push down on the spring clips (A) on the left and right sides.
5. Remove the ADF left door links (B).
6. Unscrew the two hinge pins (C) on the left and right side.



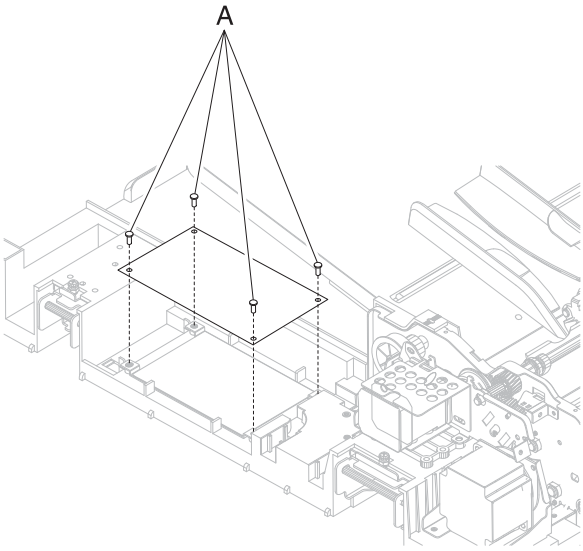
7. Pry out the front tabs (D).



8. Remove the ADF top door assembly.

ADF controller card removal

1. Remove the ADF cover, rear. See **“ADF cover, rear removal” on page 4-65**.
2. Disconnect all cables attached to the controller card.
3. Remove the four screws (A) securing the ADF controller card.



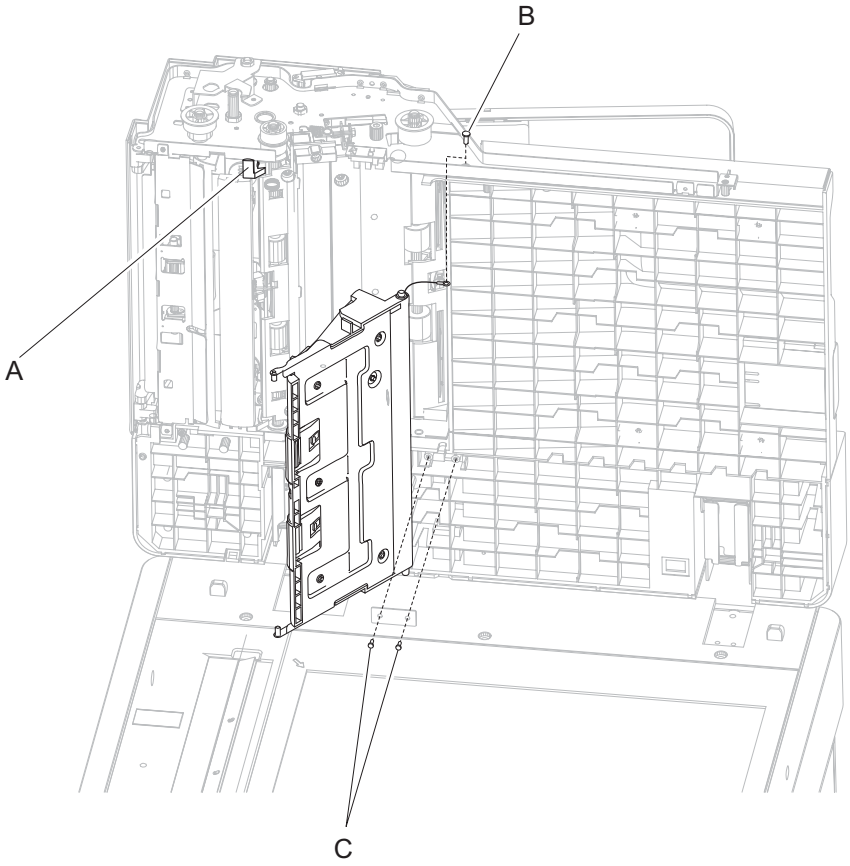
4. Remove the ADF controller card.

ADF platen cushion removal

1. Lift the ADF unit assembly.
2. Unfasten the velcro.
3. Remove the ADF platen cushion.

ADF lower door assembly removal

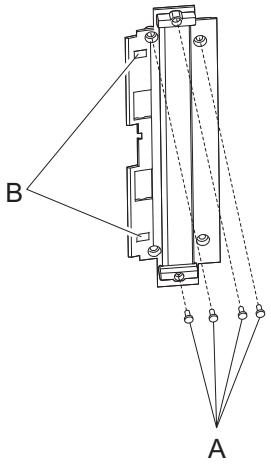
1. Remove the ADF platen cushion. See **“ADF platen cushion removal” on page 4-68**.
2. Open the ADF bottom door by pressing the green tab (A) on the underside of the front of the ADF unit assembly.
3. Remove the screw (B) securing the ground wire to the ADF unit assembly.
4. Remove the two screws (C) securing the bottom door hinge plate.



5. Remove the hinge plate and pull the ADF lower door assembly and remove.

ADF duplex CCD scan glass assembly removal (X654, X656, and X658)

1. Remove the ADF platen cushion. See **"ADF platen cushion removal" on page 4-68**.
2. Open the ADF lower door assembly.
3. Remove four screws (A) from the ADF duplex CCD scan glass assembly.
4. Pull up and release the two snaps (B) securing the ADF duplex CCD scan glass assembly.

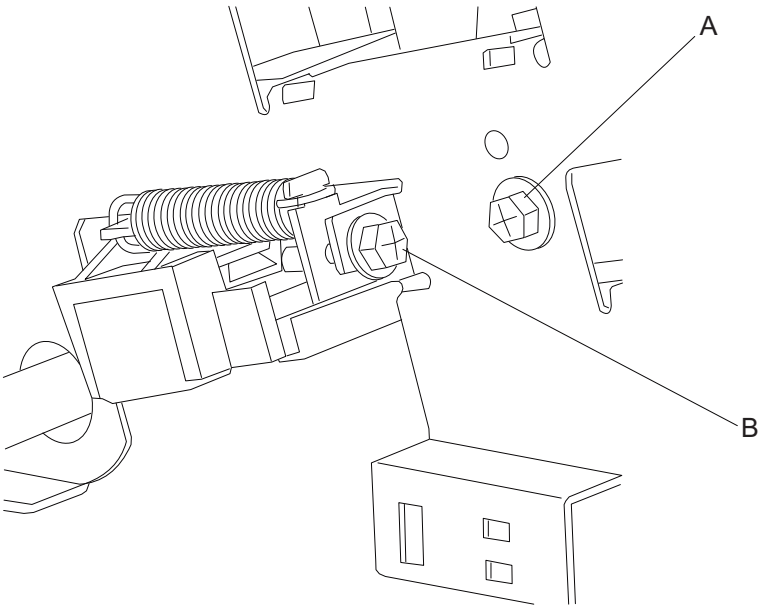


5. Remove the ADF duplex CCD scan glass assembly.

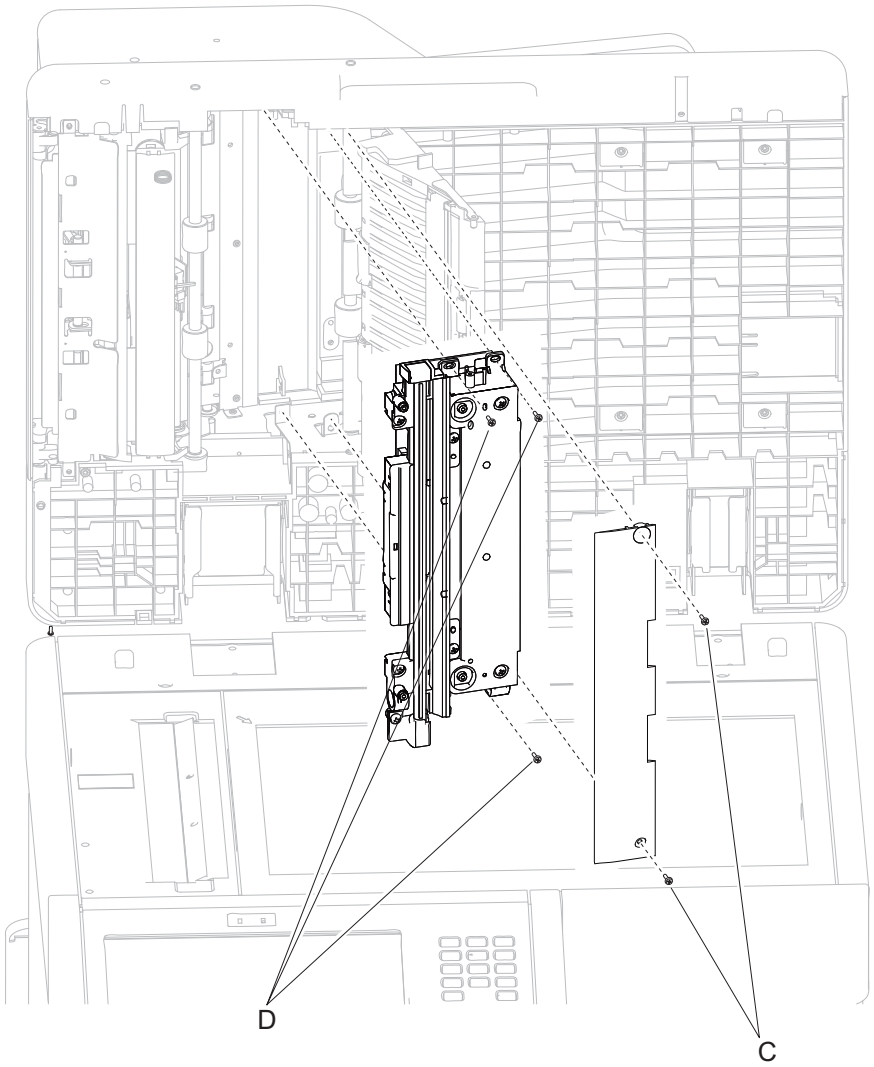
ADF duplex CCD assembly removal (X654, X656, and X658)

CAUTION: When you see this symbol, there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.

1. Remove the ADF duplex CCD scan glass assembly. See **"ADF duplex CCD scan glass assembly removal (X654, X656, and X658)" on page 4-69**.
2. Disconnect the CCD harness from the top of the ADF unit assembly.
3. Remove the skew adjustment locking screw (A), the skew adjustment screw (B), and the spring.



4. Remove the two screws (C) securing the paper guide and remove.
5. Remove the three screws (D) from the underside of the ADF unit assembly securing the ADF duplex CCD assembly to the ADF.

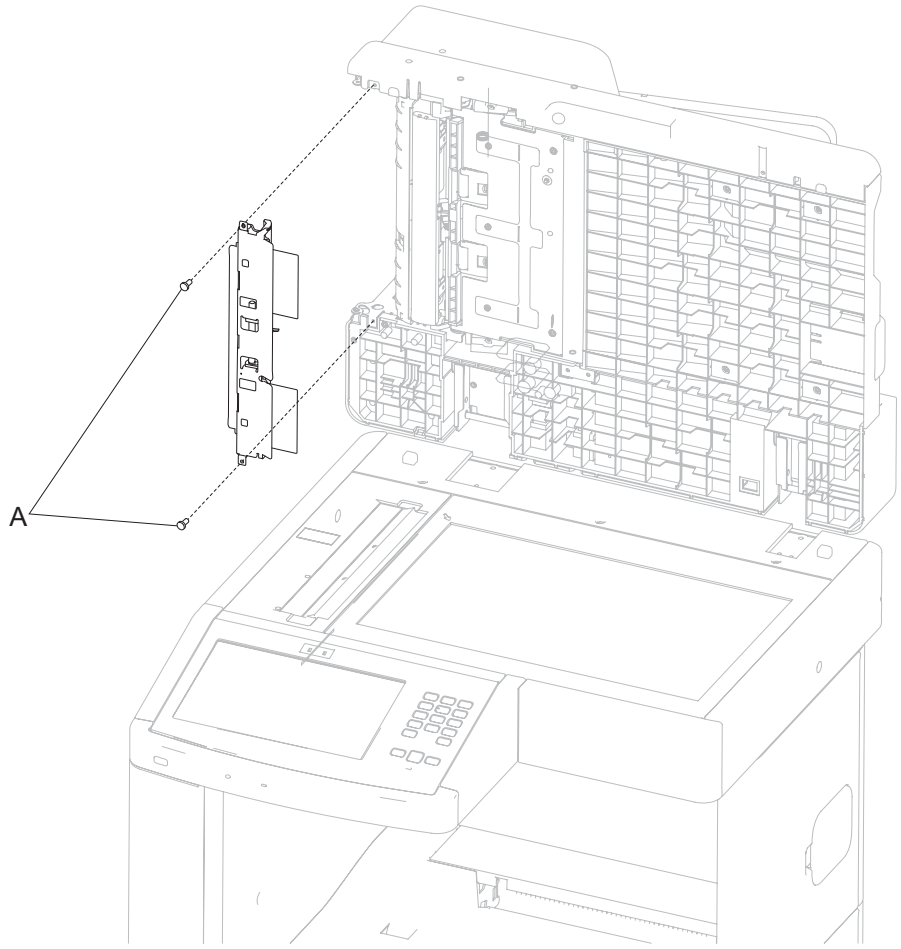


6. Carefully, remove the ADF duplex CCD assembly from the underside of the ADF unit assembly.

Replacement note: You must adjust skew after reinstalling the ADF duplex CCD assembly. Go to **"Adjusting skew" on page 3-93**.

ADF pinch roll assembly removal

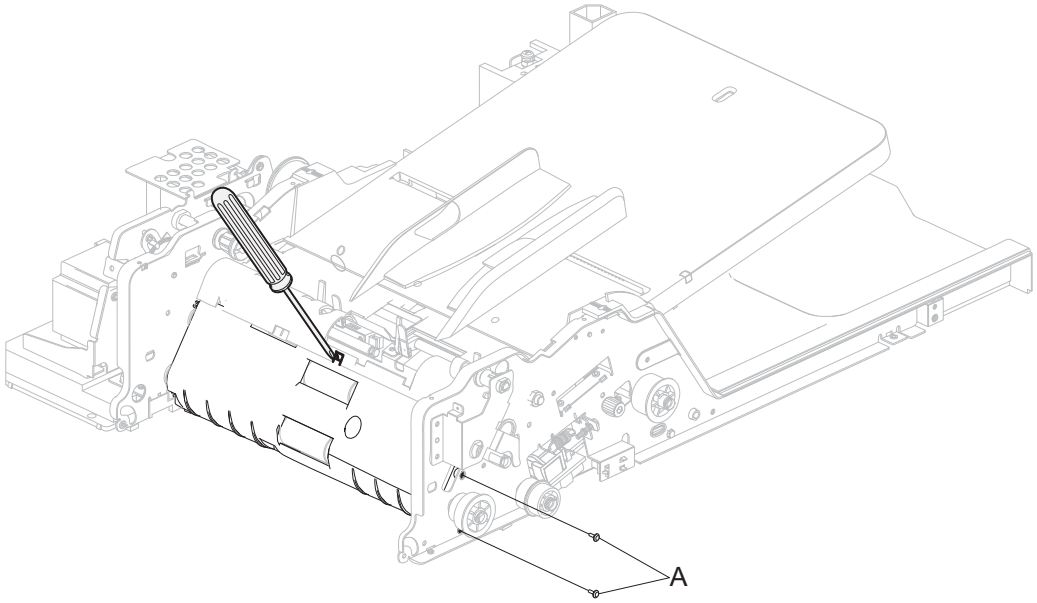
1. Remove the ADF top door assembly. See **“ADF top door assembly removal” on page 4-66**.
2. Remove the two screws (A) on either side of the ADF pinch roll assembly.



3. Remove the ADF pinch roll assembly.

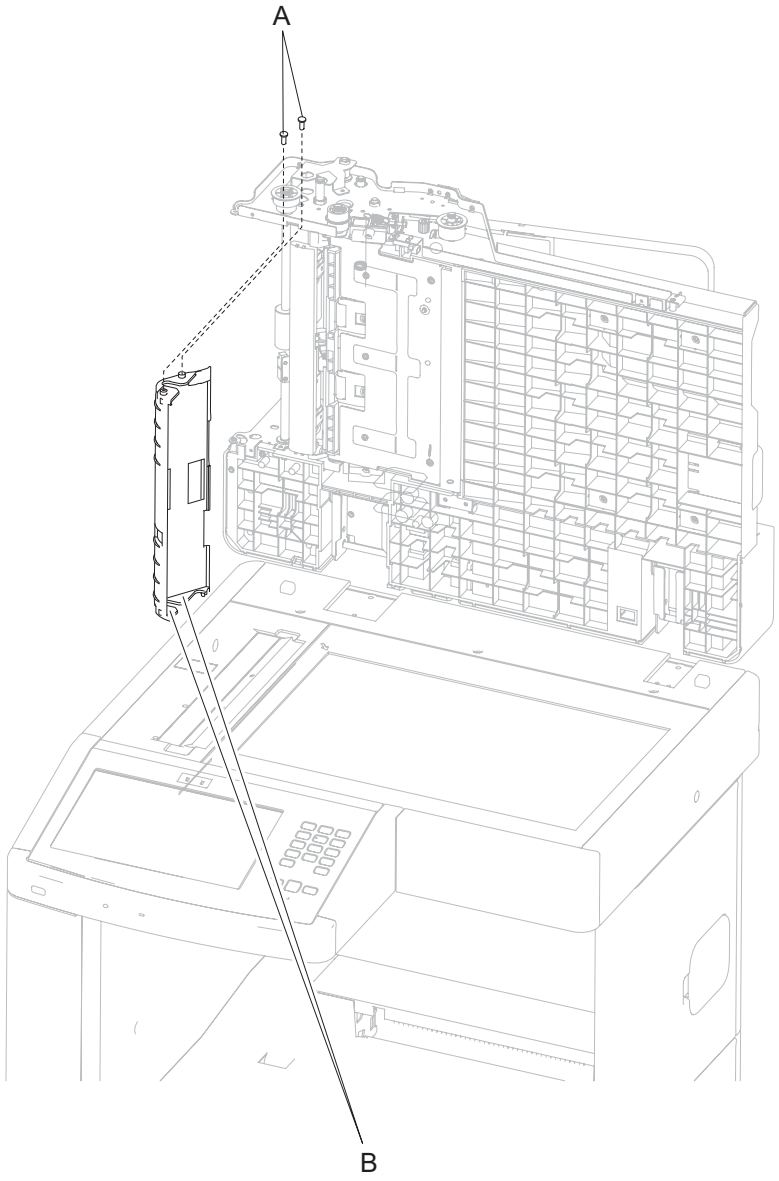
ADF turn guide removal

1. Remove the ADF pinch roll assembly. See **"ADF pinch roll assembly removal" on page 4-72**.
2. Remove the ADF separator torque limiter assembly. See **"ADF separator torque limiter assembly removal" on page 4-63**.
3. Remove the two screws (A) from the front side. Be sure to secure the ground strap by the upper turn guide screw when reinstalling.
4. Using a flat-blade screwdriver, unfasten the hook securing the separator guide to the turn guide.



Note: Upon reassembly, reattach the hook by pressing with your fingers until it *snaps* into place.

5. Pivot the turn guide out from the front side, giving room to dislodge the locating pins (B) from the rear.

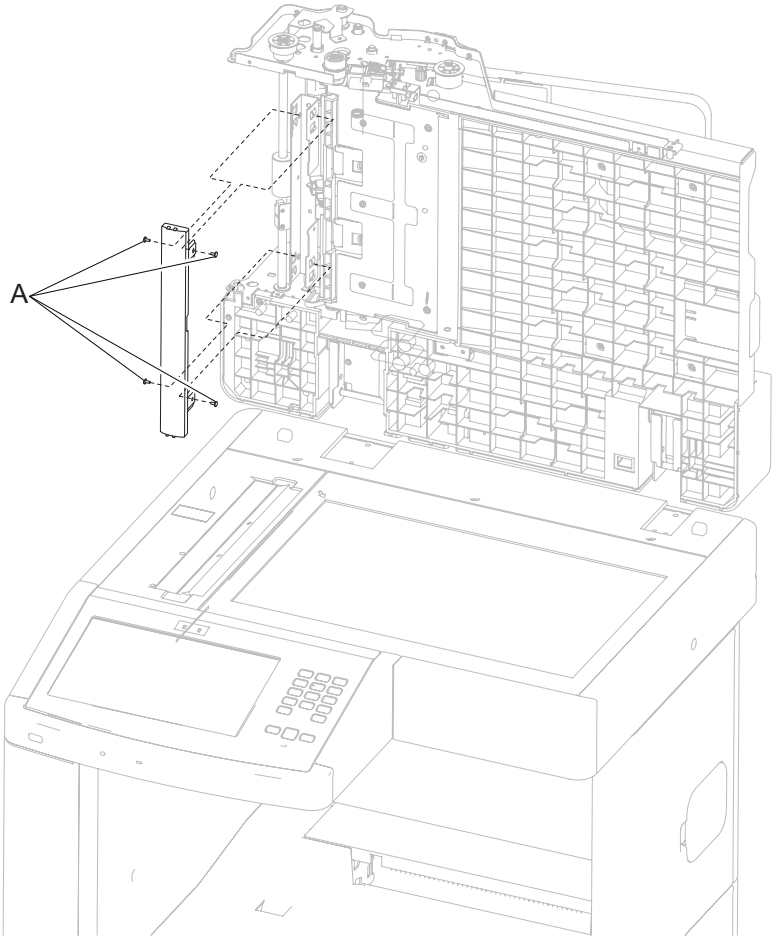


6. Remove the ADF turn guide.

ADF media pinch pad assembly removal

1. Remove the ADF duplex CCD assembly. See **"ADF duplex CCD assembly removal (X654, X656, and X658)" on page 4-70**.
2. Remove the ADF pinch roll assembly. See **"ADF pinch roll assembly removal" on page 4-72**.
3. Remove the ADF turn guide. See **"ADF turn guide removal" on page 4-73**.

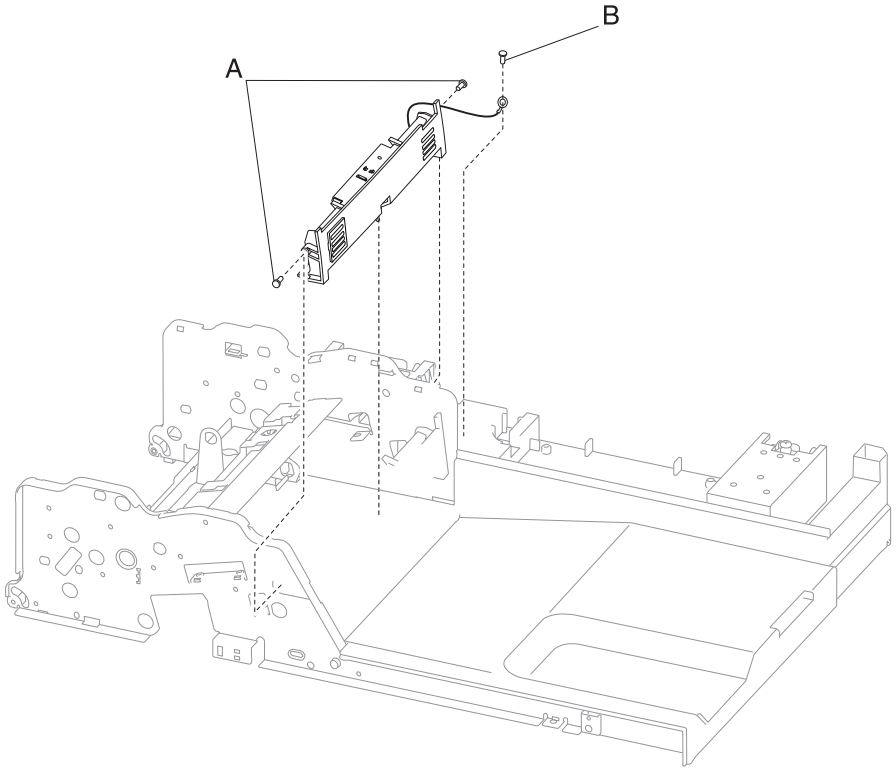
4. Remove the four screws (A) securing the ADF media pinch pad assembly.



5. Remove the ADF media pinch pad assembly.

Sensor (ADF media exit) fan bracket assembly removal (X654, X656, and X658)

1. Remove the ADF cover, front. See **"ADF cover, front removal" on page 4-64**.
2. Remove the ADF rear cover. See **"ADF cover, rear removal" on page 4-65**.
3. Open the ADF top door assembly.
4. Disconnect the ground strap, the fan (CN12) harness, and the media exit sensor (CN9) harness.
5. Remove the two screws (A) on the front and rear of the sensor (ADF media exit) fan bracket assembly.
6. Remove screw (B) from the ground strap.



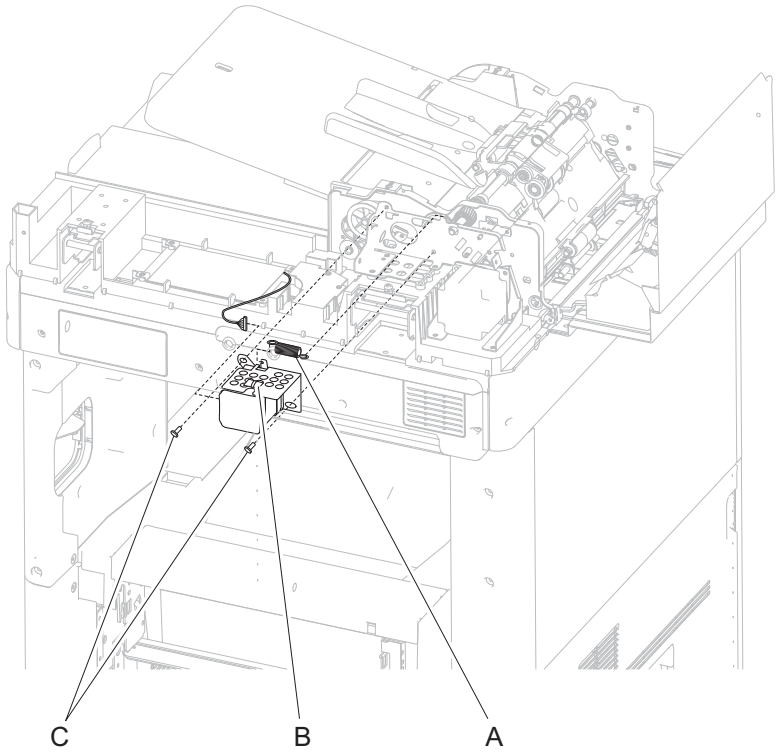
7. Remove the sensor (ADF media exit) fan bracket assembly.

Note: Remove the fan filter cover assembly from the used sensor (ADF media exit) fan bracket assembly, and install on the new sensor (ADF media exit) fan bracket assembly.

Replacement note: Be sure to reinstall the ground strap.

ADF transport drive motor bracket assembly w/cable removal

1. Remove the ADF cover, rear. See **"ADF cover, rear removal" on page 4-65**.
2. Remove the ADF transport drive motor bracket tension spring (A).
3. Remove the wires from the retaining clip (B) on top of the bracket.
4. Disconnect the ADF transport drive motor harness.
5. Remove the two screws (C) securing the ADF transport drive motor bracket assembly with cable to the ADF feed motor bracket.

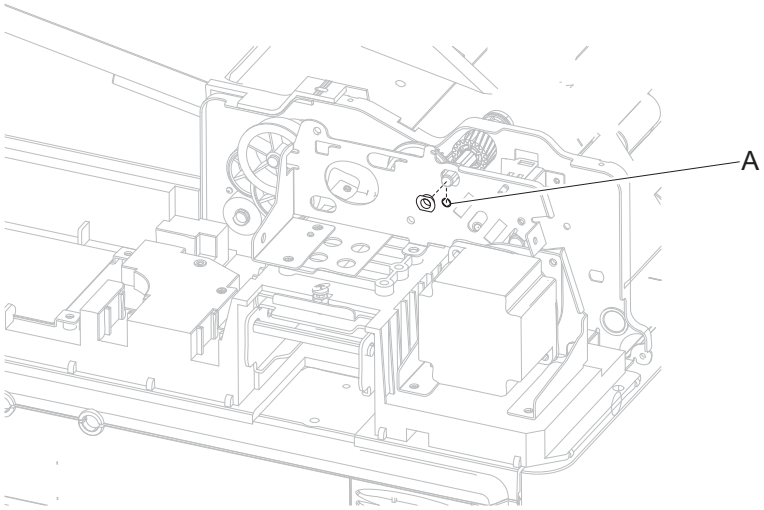


6. Slide the ADF transport drive motor bracket to the right, loosening the transport belt.
7. Remove ADF transport drive motor bracket assembly with cable.

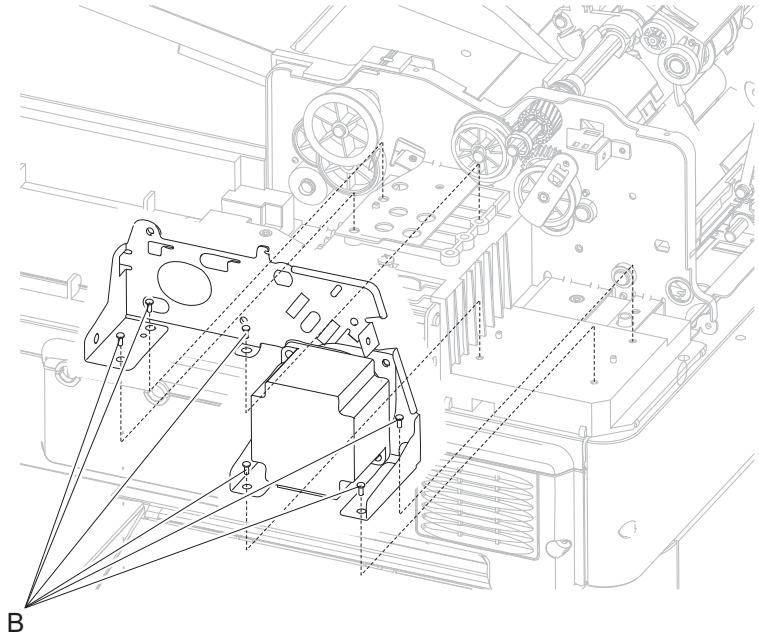
ADF feed drive motor assembly removal

1. Remove the ADF transport motor bracket assembly with cable. See **"ADF transport drive motor bracket assembly w/cable removal" on page 4-77**.
2. Unfasten and remove all wires from the ADF feed drive motor assembly.
3. Disconnect the ADF feed motor harness from the feed motor.
4. Remove the E-clip (A) securing one end of the ADF feed / pick roll feed shaft to the ADF feed drive motor assembly.

5. Remove the bushing from the pick roll feed shaft.



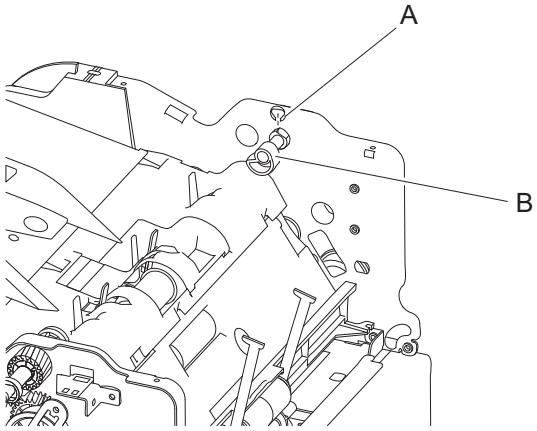
6. Remove the six screws (B) securing the ADF feed motor assembly to the ADF unit assembly.



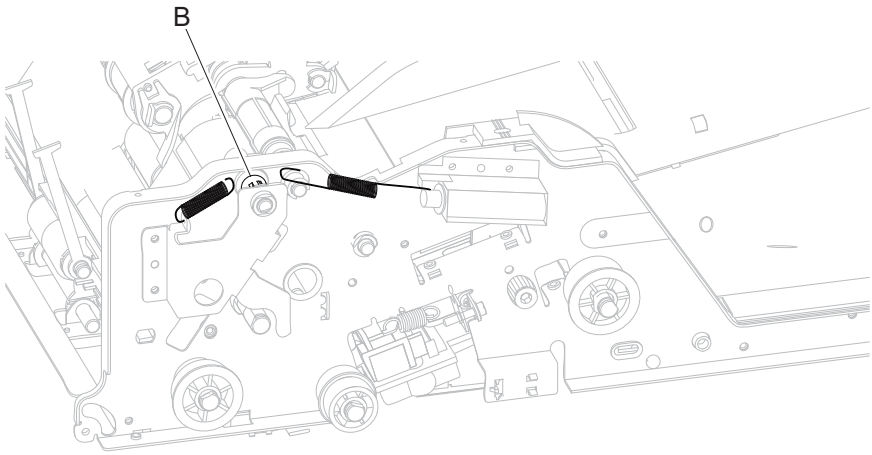
7. Remove the ADF feed motor assembly to include two belts and cable.

ADF pick roll position cam assembly removal

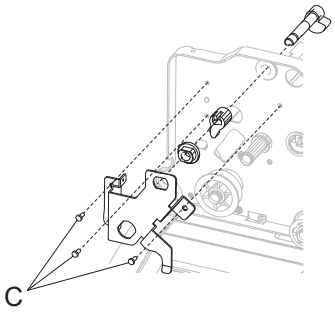
1. Remove the ADF cover, front. See **“ADF cover, front removal” on page 4-64**.
2. Remove the ADF feed / pick roll assembly. See **“ADF feed / pick roll assembly removal” on page 4-61**.
3. Disengage the clip (A) on the shaft arm (B), securing it to the shaft.



4. Remove the two springs attached to the shaft arm (B).



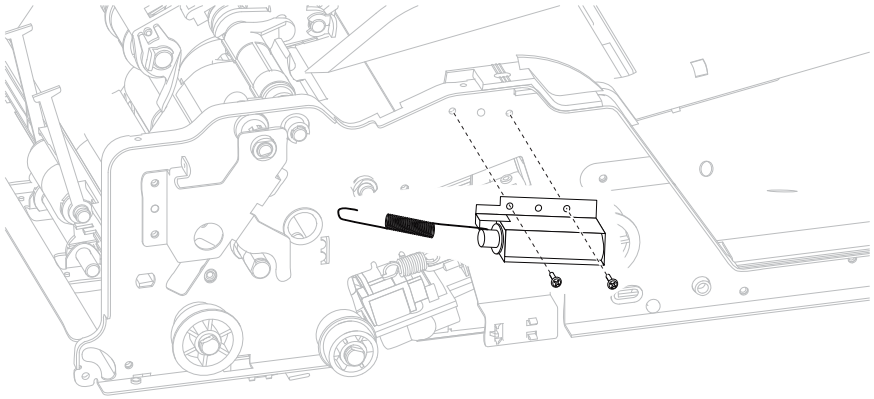
5. Remove the three screws (C) securing the ADF pick roll position cam assembly bracket.



6. Remove the ADF pick roll position cam assembly bracket.
7. Remove it from the shaft.
8. Slide the shaft and ADF pick roll position cam assembly out of the ADF frame.

ADF solenoid assembly removal

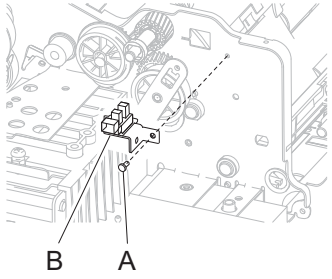
1. Remove the ADF cover, front. See **“ADF cover, front removal” on page 4-64**.
2. Remove the pick roll position cam assembly spring from the cam shaft lever.
3. Disconnect the solenoid wire harness.
4. Remove the two screws (A) securing the solenoid bracket assembly to the frame of the ADF unit assembly.



5. Remove the ADF solenoid assembly.

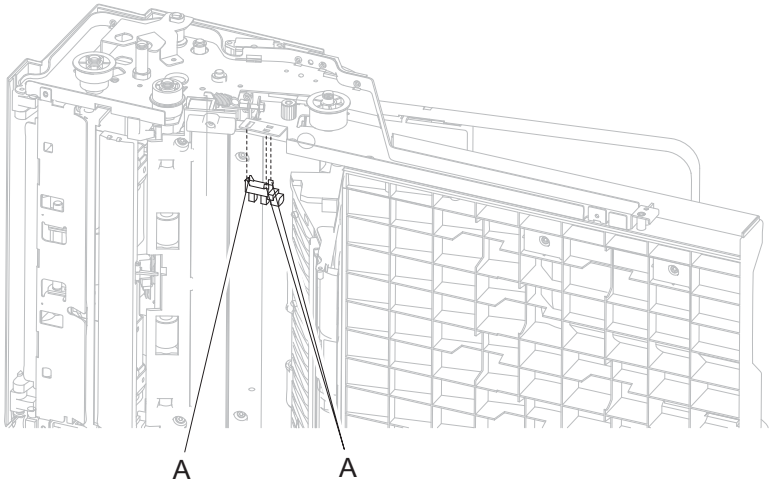
Sensor (ADF top door interlock) removal

1. Remove the ADF cover, rear assembly. See **“ADF cover, rear removal” on page 4-65**.
2. Remove the feed motor bracket assembly. See **“ADF feed drive motor assembly removal” on page 4-77**.
3. Disconnect the sensor harness from sensor.
4. Remove the sensor (ADF top door interlock) bracket screw (A).
5. Remove the bracket with the sensor (ADF top door interlock).
6. Detach the sensor (ADF top door interlock) from the bracket by squeezing the clip (B) and removing the sensor.



Sensor (ADF lower door interlock) removal

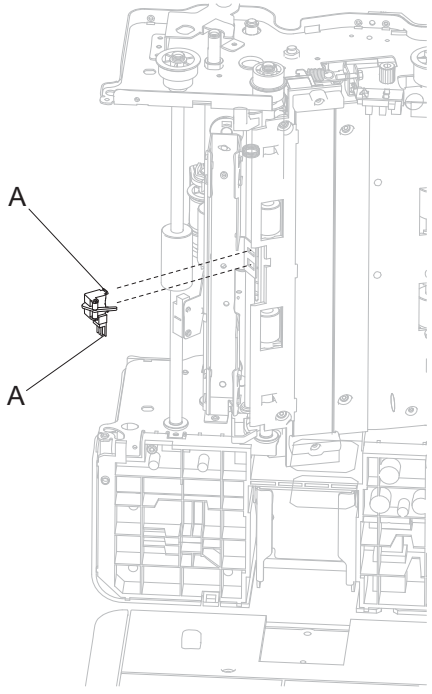
1. Remove the ADF cover, front. See **“ADF cover, front removal” on page 4-64**.
2. Remove the ADF platen cushion. See **“ADF platen cushion removal” on page 4-68**.
3. Open the bottom door assembly.
4. Remove the sensor by squeezing the tabs (A) and removing it from the front of the ADF frame.



5. Disconnect the lower sensor (ADF lower door interlock) harness.
6. Remove the sensor (ADF lower door interlock).

Sensor (ADF 2nd scan) removal

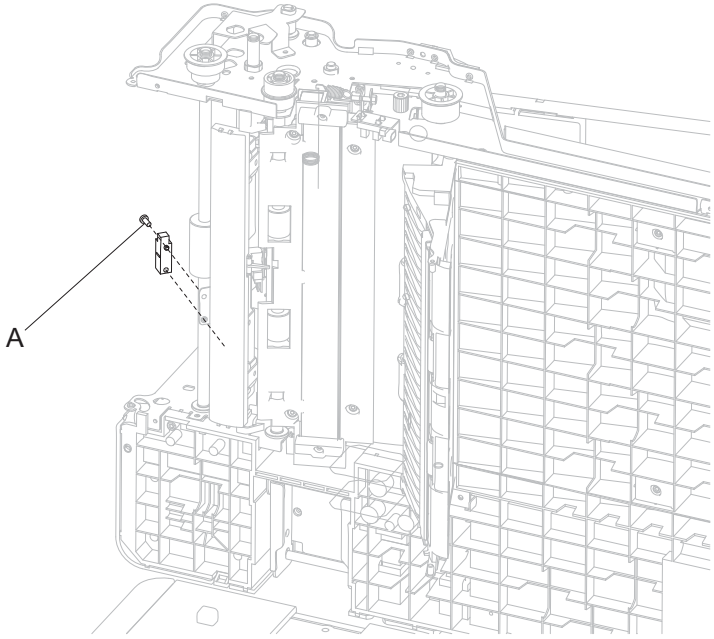
1. Remove the ADF media pinch pad assembly. See **“ADF media pinch pad assembly removal” on page 4-74**.
2. Remove the sensor (ADF 2nd scan) harness from the sensor.
3. Remove the sensor from the pinch pad mounting bracket assembly by squeezing the tabs (A) on the sensor.



4. Remove the sensor (ADF 2nd scan).

Sensor (ADF 1st scan) removal

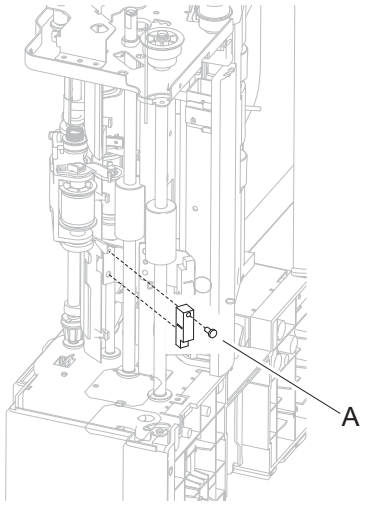
1. Remove the ADF turn guide. See **"ADF turn guide removal" on page 4-73**.
2. Remove the screw (A) securing the sensor (ADF first scan) to its bracket.



3. Remove the sensor (ADF first scan).
4. Remove the sensor (ADF first scan) harness.

Sensor (ADF sheet through) removal

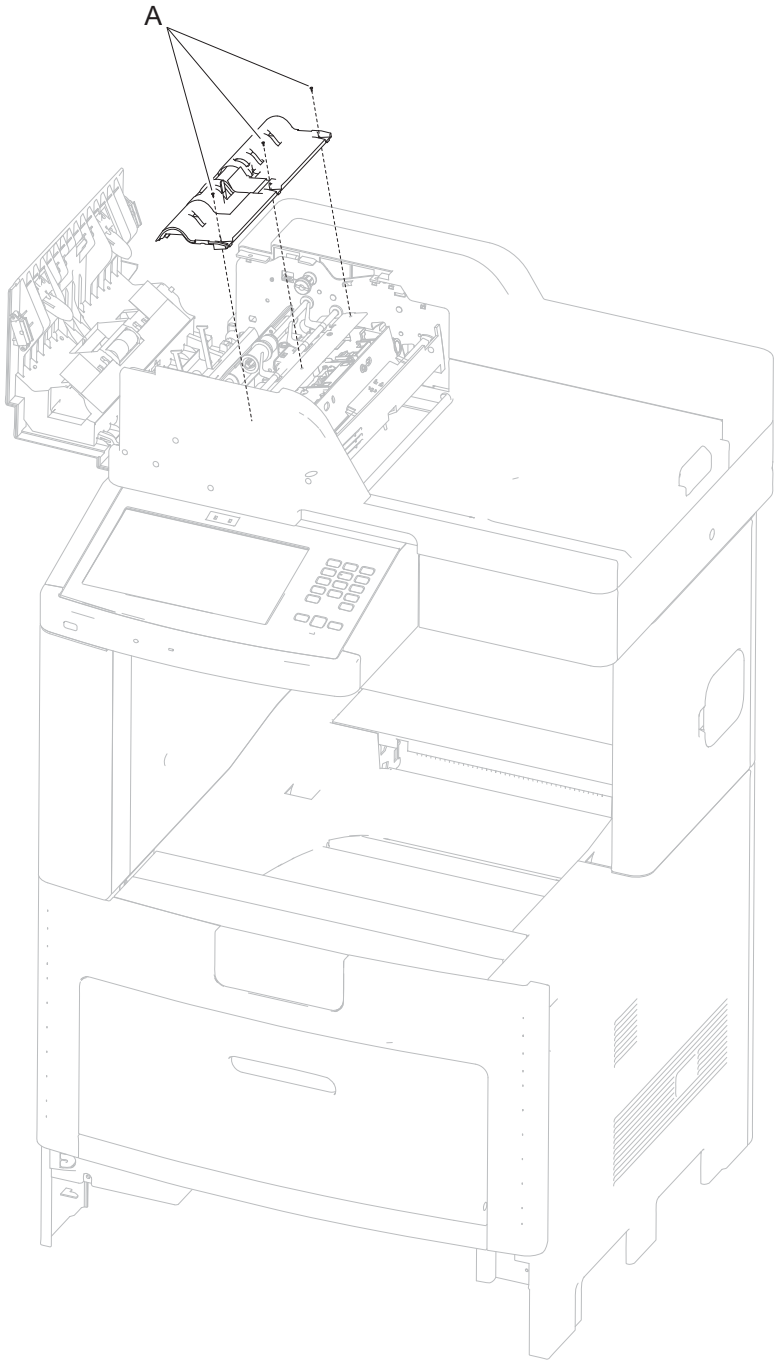
1. Remove the ADF turn guide. See **"ADF turn guide removal" on page 4-73**.
2. Remove the screw (A) securing the sensor (ADF sheet through) to its bracket.



3. Remove the sensor (ADF sheet through).
4. Remove the sensor (ADF sheet through) harness.

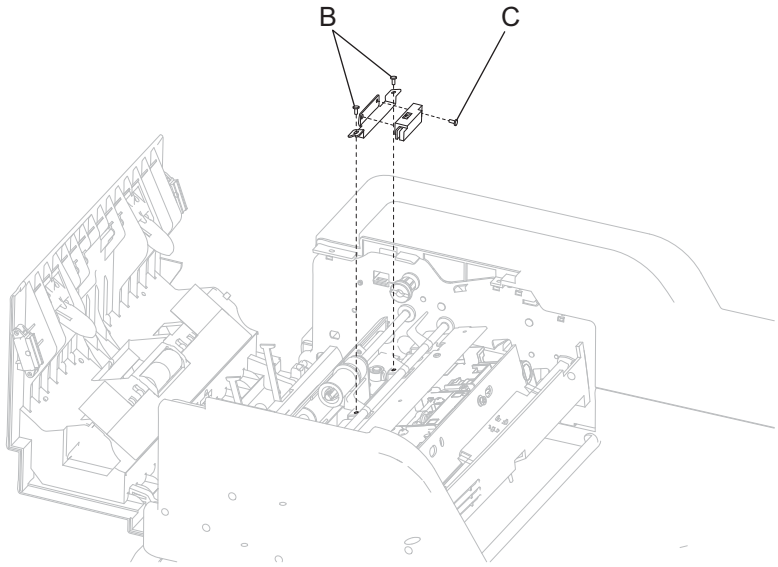
Sensor (ADF document set) removal

1. Remove the ADF document tray assembly. See **“ADF document tray assembly removal” on page 4-65**.
2. Remove the three screws (A) securing the separator guide to the ADF frame.



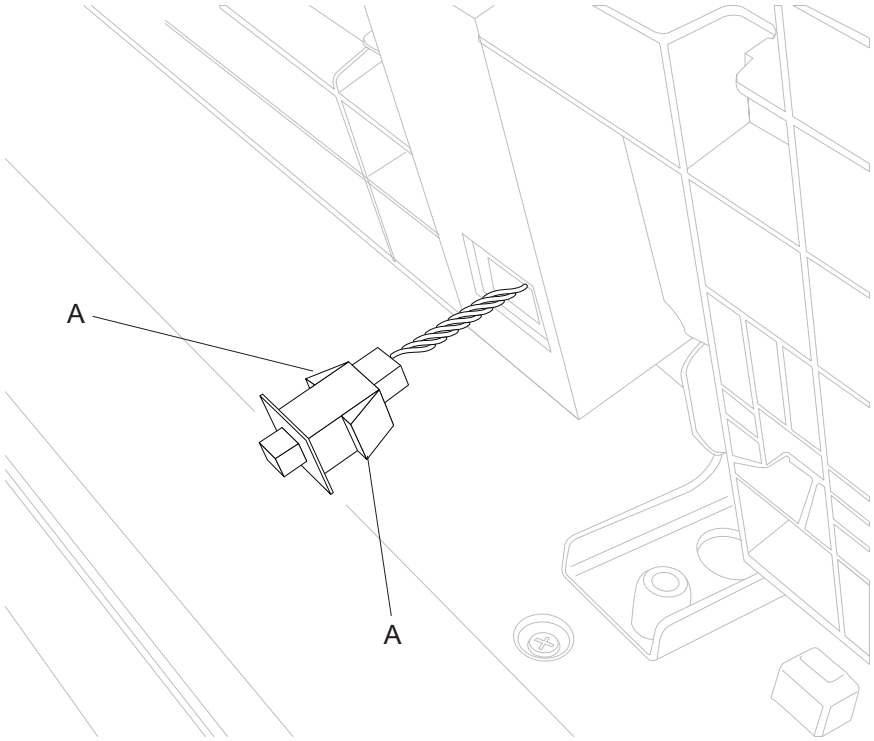
3. Remove the sensor (ADF document set) harness.
4. Remove the two screws (B) securing the sensor (ADF document set) bracket to the ADF frame.
5. Remove the sensor (ADF document set) and bracket.

6. Remove the screw (C) securing the sensor (ADF document set) to the bracket.



Switch (ADF closed interlock) removal

1. Remove the ADF cover, rear assembly. See **"ADF cover, rear removal" on page 4-65**.
2. Open the ADF unit assembly.
3. Remove the ADF closed interlock harness from the switch.
4. Using a prying tool, press the tabs (A) on either side of the switch, and pull it down through the bottom of the ADF unit assembly.

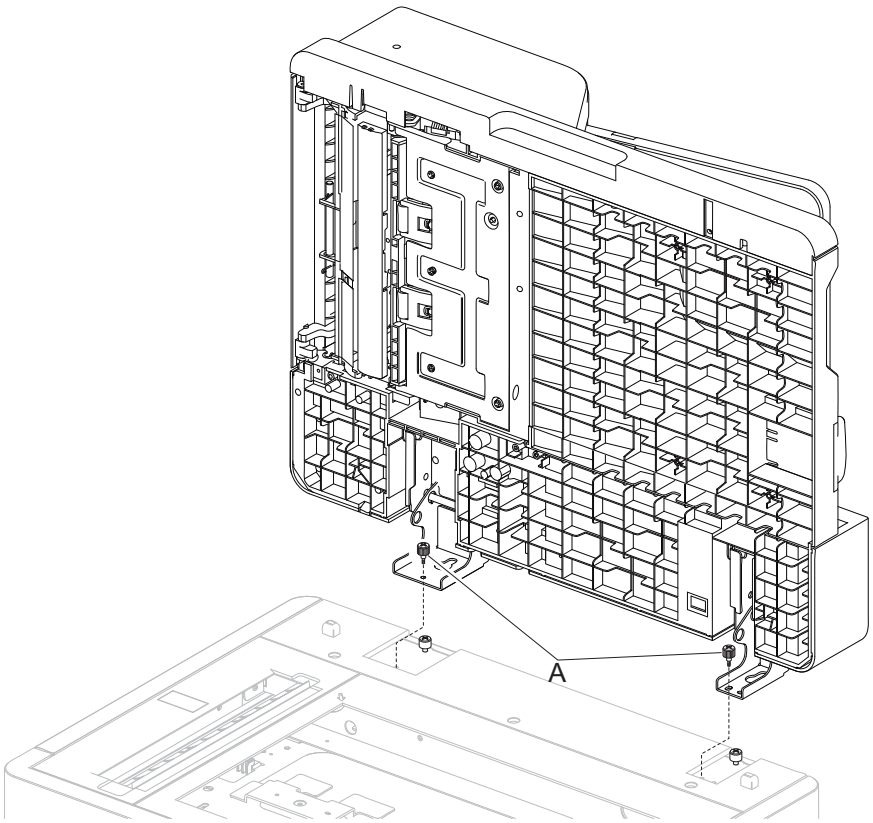


ADF unit assembly removal (models X651, X652/5535dn, X654, and X656)

1. Remove the scanner cover, rear. See **"Scanner cover, rear removal" on page 4-133**.
2. Remove the scanner cover, left. See **"Scanner cover, left removal (models X651, X652/5535dn, X654, and X656)" on page 4-134**.

Note: Models X651and X652/5535dn do not need the left scanner cover removed (no duplex ADF cable).

3. Slide the left scanner cover to the rear, and remove.
4. Disconnect the CCD harness and ground strap from behind the left side scanner cover.
5. Disconnect the CCD harness and ground strap from behind the rear scanner cover.
6. Open the ADF.
7. Remove the two thumb screws (A) on either side of the ADF unit.



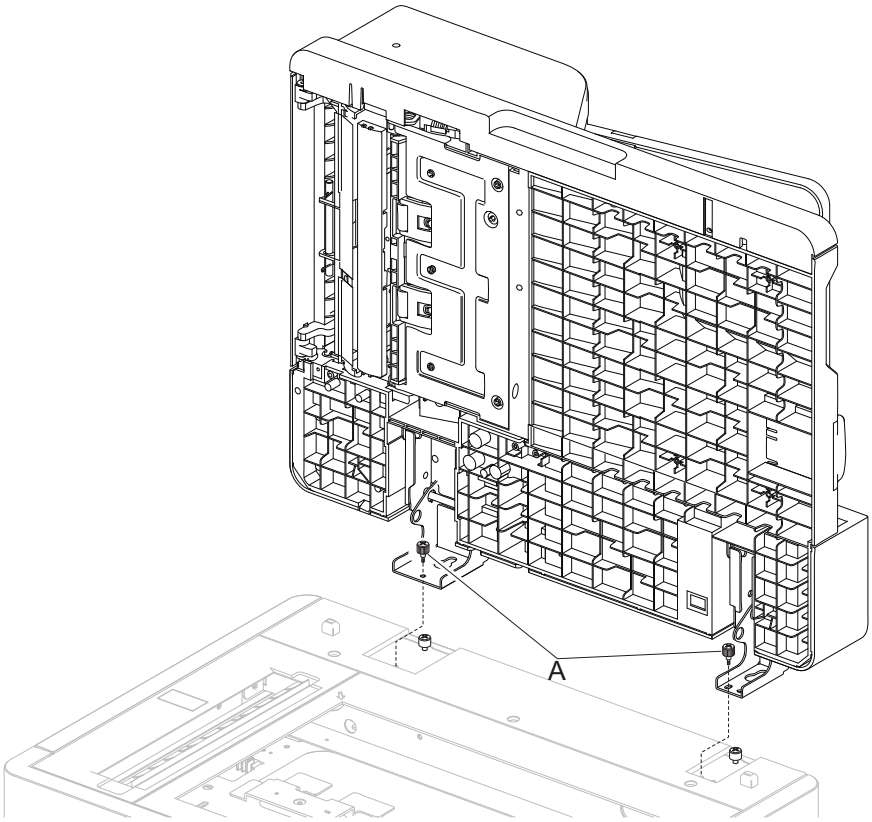
8. Slide ADF unit to the rear, lift up, and remove the ADF unit assembly.

Replacement note: You must adjust skew after reinstalling the ADF unit assembly. Go to **"Adjusting skew" on page 3-93**.

ADF unit assembly removal (model X658)

1. Remove the scanner cover, rear. See **"Scanner cover, rear removal" on page 4-133**.
2. Remove the scanner support cover, left. See **"Scanner support cover, left removal (model X658)" on page 4-152**.
3. Disconnect the CCD harness and ground strap from behind the scanner support cover, left.
4. Disconnect the CCD harness and ground strap from behind the rear scanner cover.
5. Open the ADF.

6. Remove the two thumb screws (A) on both sides of the ADF unit.



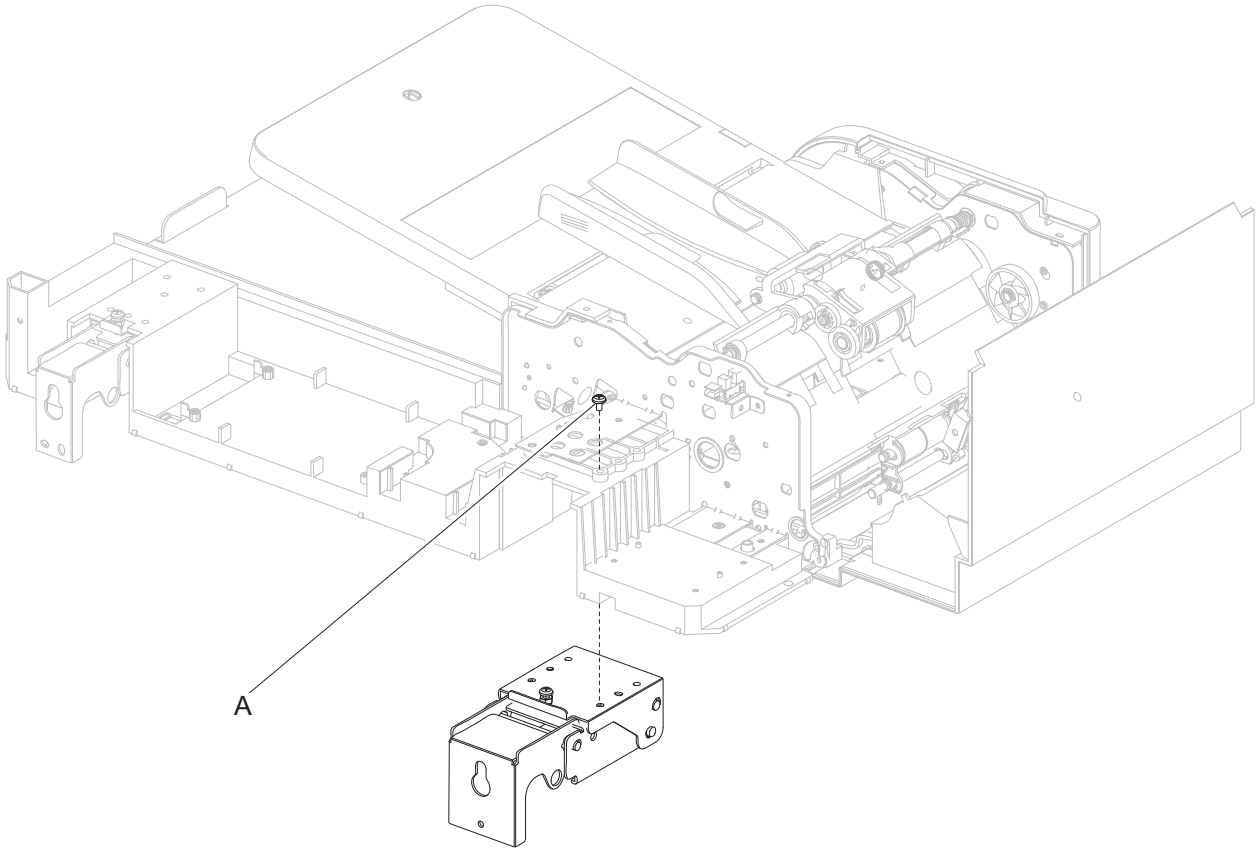
7. Slide ADF unit to the rear, lift up, and remove the ADF unit assembly.

Replacement note: You must adjust skew after reinstalling the ADF unit assembly. Go to **"Adjusting skew" on page 3-93**.

ADF left hinge removal

1. Remove the ADF unit assembly. See **"ADF unit assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-85** or **"ADF unit assembly removal (model X658)" on page 4-85**.
2. Remove the ADF feed motor bracket assembly with cable. See **"ADF feed drive motor assembly removal" on page 4-77**.

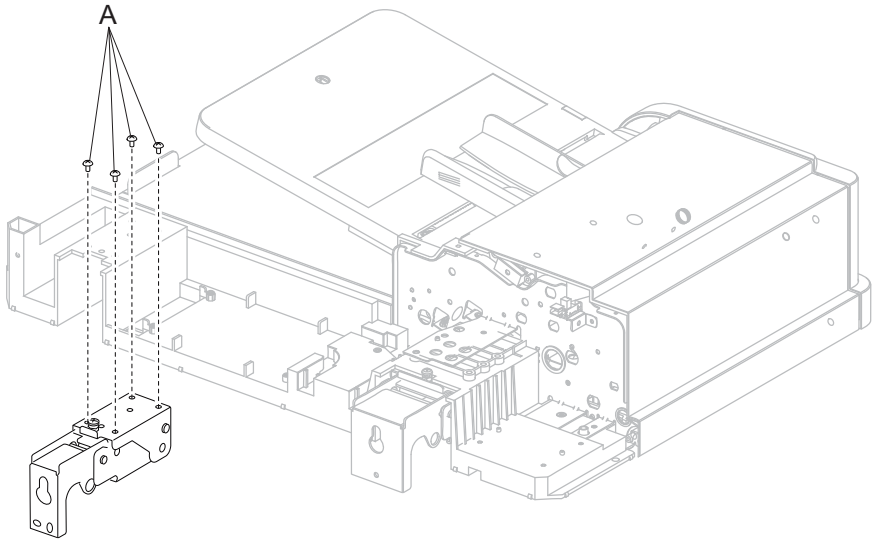
3. Remove the screw (A).



4. Remove the ADF left hinge.

ADF right hinge removal

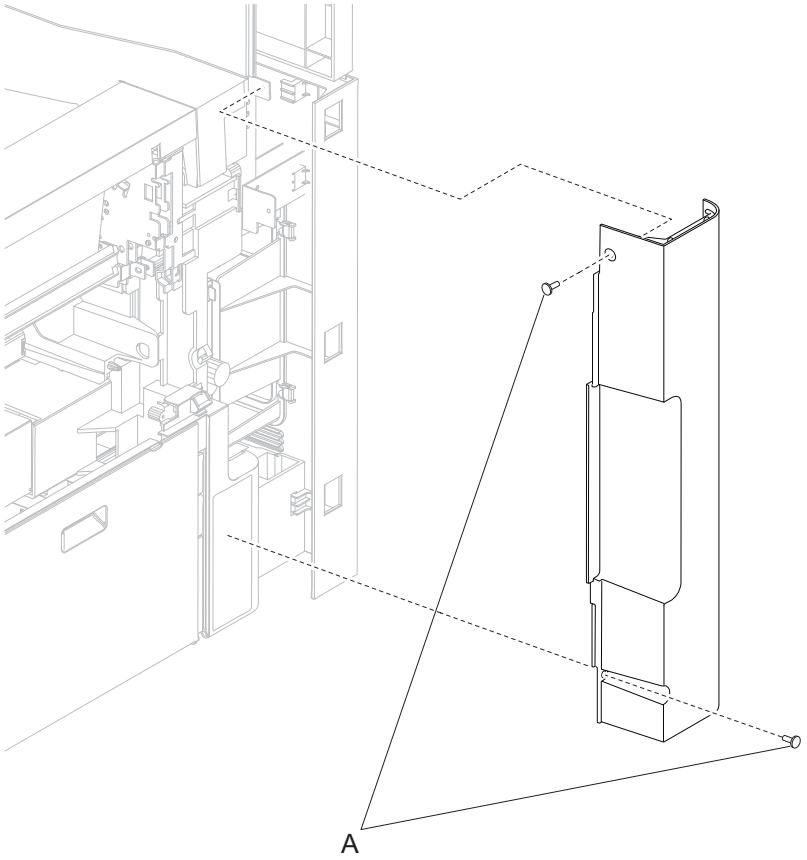
1. Remove the ADF unit assembly. See **"ADF unit assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-85** or **"ADF unit assembly removal (model X658)" on page 4-85**.
2. Remove the ADF cover, rear assembly. See **"ADF cover, rear removal" on page 4-65**.
3. Remove the four screws (A) securing the ADF right hinge to the ADF unit assembly.



4. Remove the ADF right hinge.

Cover, left rear corner removal (model X658)

1. Remove the scanner support cover, left rear. See **“Scanner support cover, left rear removal (model X658)” on page 4-150**.
2. Remove the two screws (A) securing the cover, left rear corner to the machine.

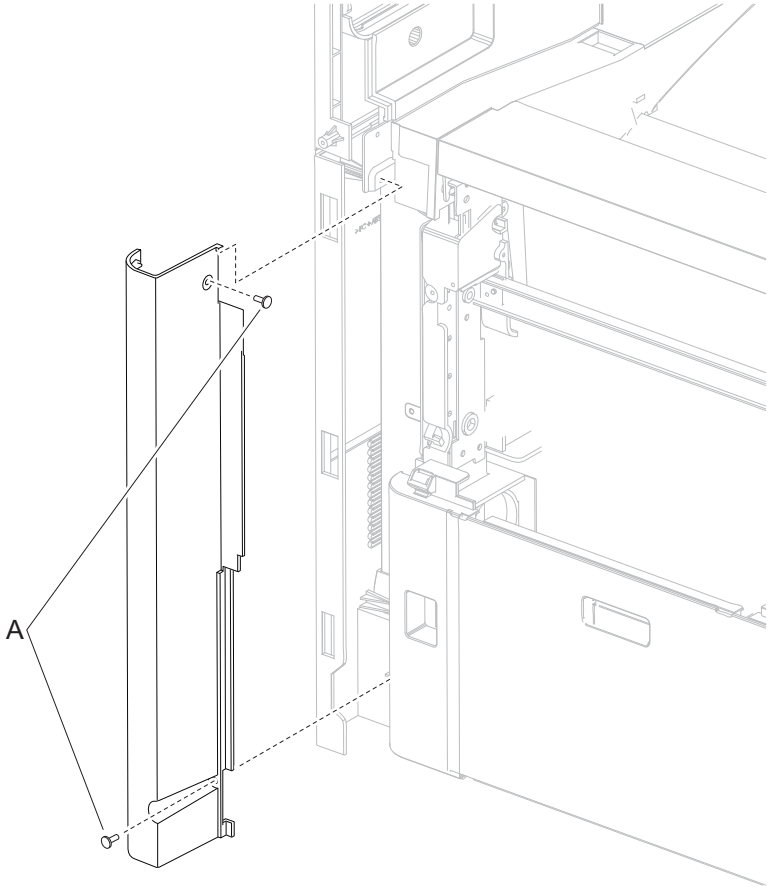


3. Slide the cover, left rear corner up and out.

Cover, right rear corner removal (model X658)

1. Remove the scanner support cover, right side rear. See **“Scanner support cover, right rear removal (model X658)” on page 4-127**.
2. Open the rear door.

3. Remove the two screws (A) securing the cover, right rear corner.

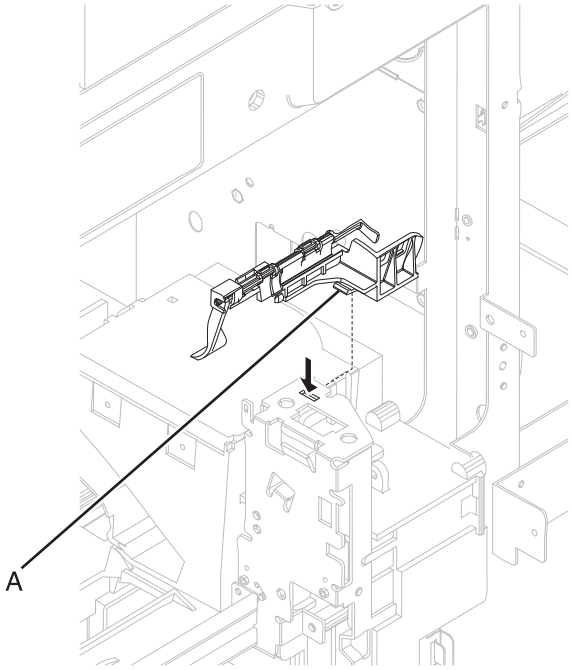


4. Lift and remove the cover, right rear corner.

Sensor (standard bin exit) actuator assembly removal

1. Open the upper rear door.
2. Remove the fuser access panel.
3. Remove the redrive assembly. See **"Redrive assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-103** or **"Redrive assembly removal (model X658)" on page 4-103**.

4. Using a flat-blade screwdriver, press on the tab (A) securing the sensor (standard bin exit) actuator assembly.

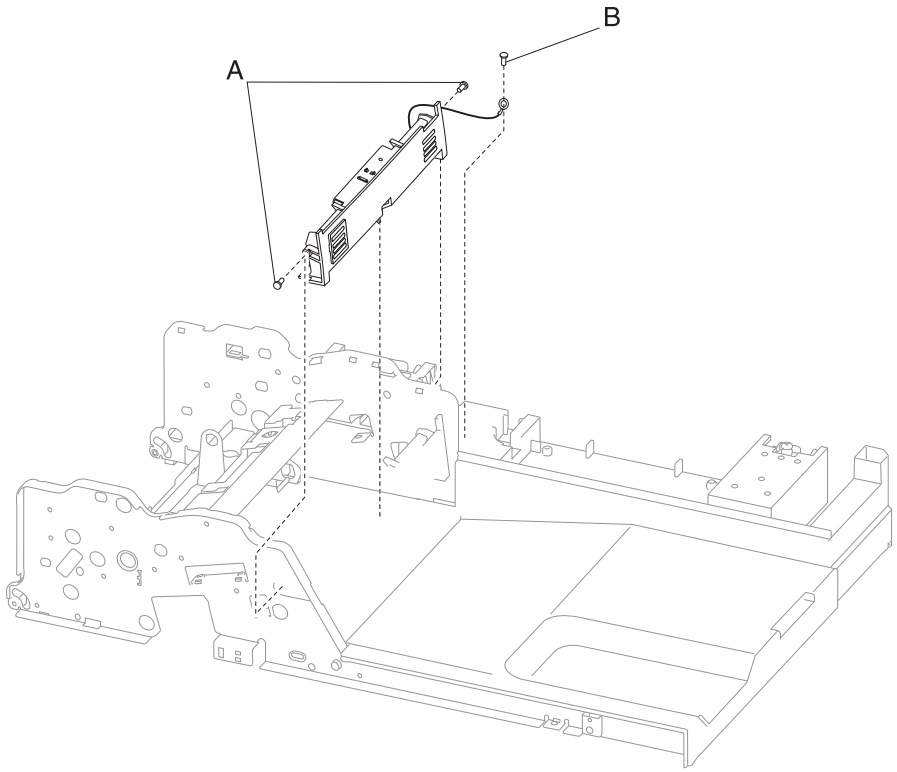


5. Position the sensor (standard bin exit) actuator assembly where the laser cover can be removed.
6. Remove the laser cover. See **"Laser cover removal (model X658)" on page 4-104**.
7. Remove the sensor (standard bin exit) actuator assembly.

Sensor (ADF media exit) bracket assembly removal (X651)

1. Remove the ADF cover, front. See **"ADF cover, front removal" on page 4-64**.
2. Remove the ADF rear cover. See **"ADF cover, rear removal" on page 4-65**.
3. Open the ADF top door assembly.
4. Disconnect the ground strap, the fan (CN12) harness, and the media exit sensor (CN9) harness.
5. Remove the two screws (A) on the front and rear of the sensor (ADF media exit) fan bracket assembly.

6. Remove screw (B) from the ground strap.



7. Remove the sensor (ADF media exit) fan bracket assembly.

Note: Remove the fan filter cover assembly from the used sensor (ADF media exit) fan bracket assembly, and install on the new sensor (ADF media exit) fan bracket assembly.

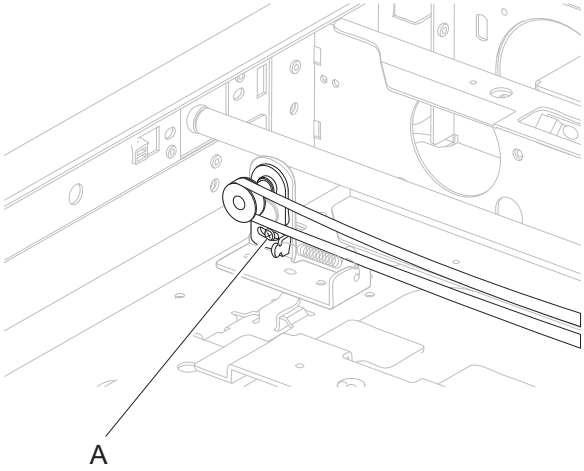
Replacement note: Be sure to reinstall the ground strap.

Scanner CCD assembly removal

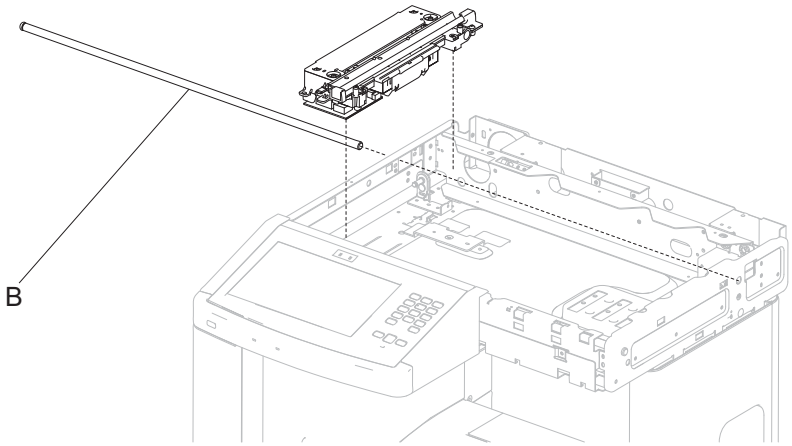
CAUTION: When you see this symbol, there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.

1. Remove the scanner platen glass cover assembly. See **"Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-140** or **"Scanner platen glass cover assembly removal (model X658)" on page 4-139**.
2. Loosen the screw (A) on the carriage belt tensioner.

3. Pull slack in the carriage belt, and retighten screw (A).



4. Slide the carriage belt out of the rear of the scanner CCD assembly.
5. Remove the rear CCD scanner shaft (B) from the flatbed frame, by lifting the left end of the shaft up and remove through the left side.

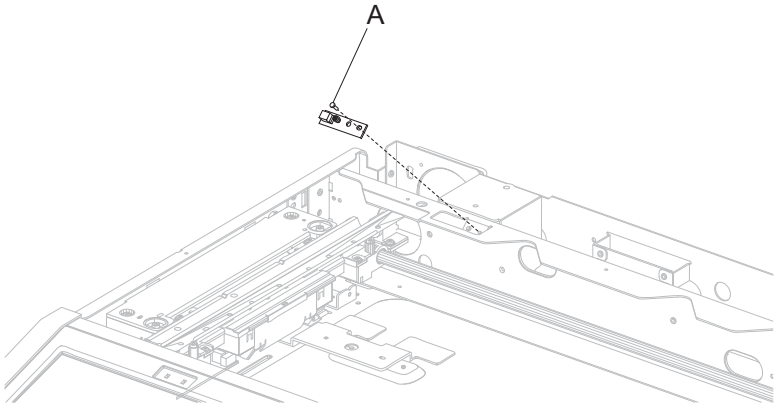


6. Lift the scanner CCD assembly from front shaft.
7. Rotate the scanner CCD assembly upside down, and carefully remove the ribbon cable.
8. Remove the scanner CCD assembly.

Replacement note: You must adjust skew after reinstalling the scanner CCD assembly. Go to **"Adjusting skew" on page 3-93**.

Scanner reference LED cable assembly removal

1. Remove the scanner platen glass cover assembly. See **"Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-140** or **"Scanner platen glass cover assembly removal (model X658)" on page 4-139**.
2. Remove the screw (A) securing the scanner reference LED cable assembly to the flatbed frame.



3. Remove the scanner reference LED cable assembly.
4. Remove the wire harness from the scanner reference LED cable assembly.

Scanner unit assembly removal (models X651, X652/5535dn, X654, and X656)

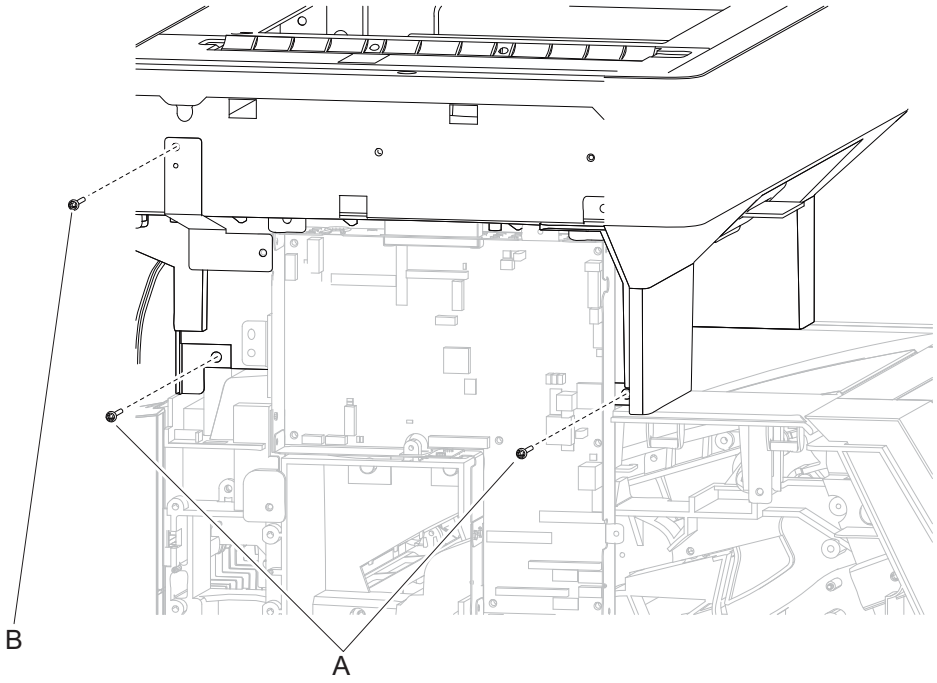
Warning: When replacing any of the following components:

- Scanner interface card assembly
- System card assembly
- Scanner unit assembly

Only replace one component at a time. replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

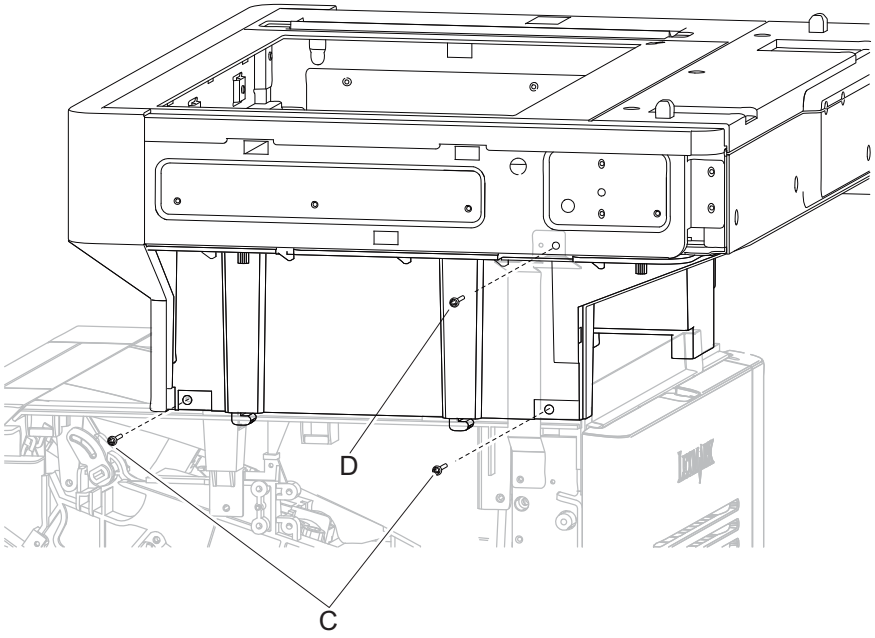
These components can be used as a method of troubleshooting as long as the machine is booted into diagnostic mode or is operating in diagnostic mode. Once a component has been installed in a machine and powered up into user mode, it cannot be used in another machine. It must be returned to the manufacturer.

1. Remove the ADF unit assembly. See **"ADF unit assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-85**.
2. Remove the scanner controller card cage cover.
3. Remove all cables.
4. Remove the two plastic screws (A) and screw (B) securing the ground strap to the left side of the scanner unit assembly.

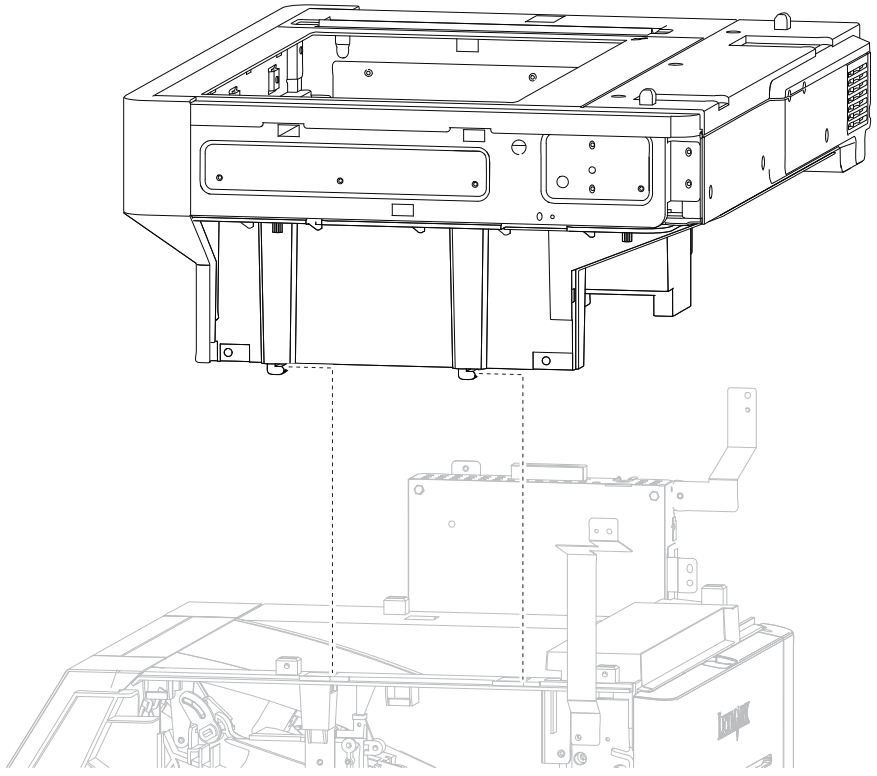


5. Remove the scanner cover, right. See **"Scanner cover, right removal (models X651, X652/5535dn, X654, and X656)" on page 4-136**.
6. Remove the two plastic screws (C) securing the right side of the scanner unit assembly to the printer.

7. Remove the screw (D) securing the ground strap to the frame of the scanner unit assembly.



8. Carefully slide the scanner unit assembly to the front, and lift up.



Scanner unit assembly removal (model X658)

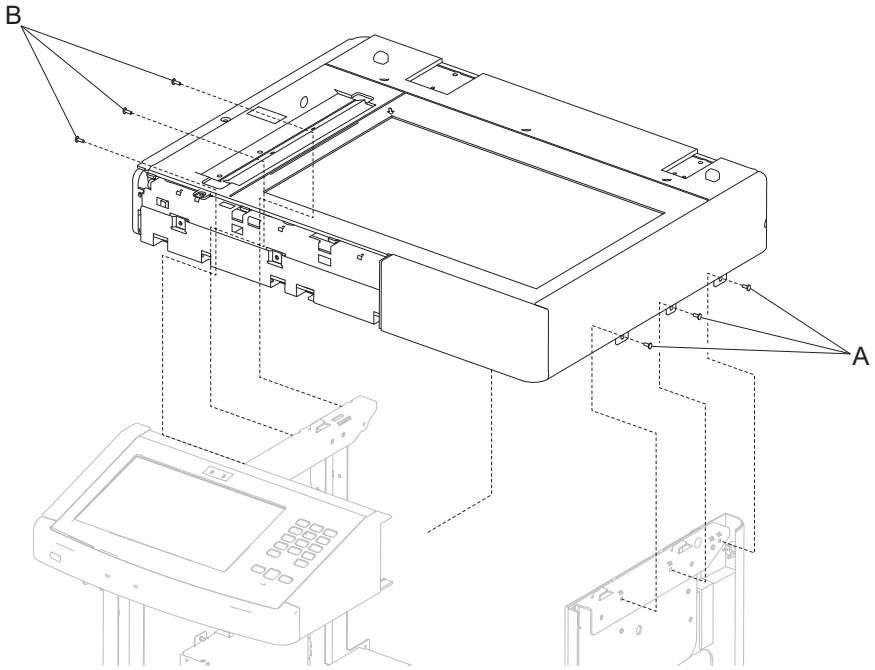
Warning: When replacing any of the following components:

- Scanner interface card assembly
- System card assembly
- Scanner unit assembly

Only replace one component at a time. replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

These components can be used as a method of troubleshooting as long as the machine is booted into diagnostic mode or is operating in diagnostic mode. Once a component has been installed in a machine and powered up into user mode, it cannot be used in another machine. It must be returned to the manufacturer.

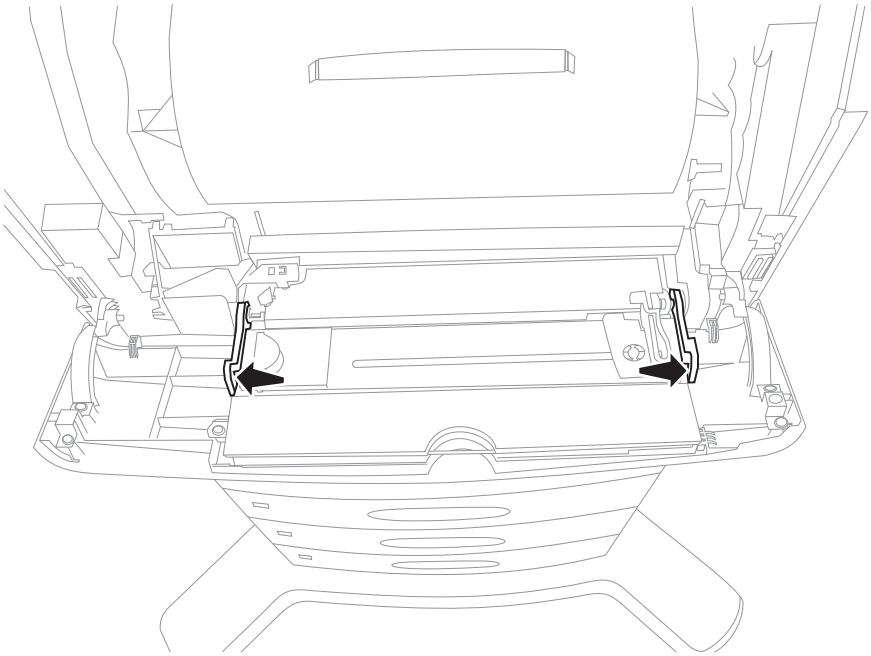
1. Remove the ADF unit assembly. See **"ADF unit assembly removal (model X658)" on page 4-85**.
2. Remove the side cover, left. See **"Side cover, left removal (model X658)" on page 4-123**.
3. Remove the scanner controller card cage cover.
4. Disconnect the CCD and ribbon cable harnesses.
5. Remove the three screws (A) from the right side of the scanner support.
6. Remove the three screws (B) from the left side of the scanner support.



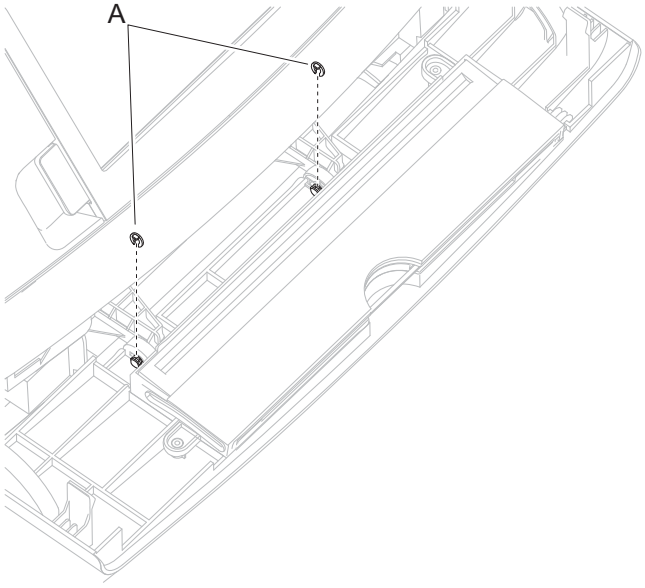
7. Slide the flatbed scanner to the rear, and remove.

MPF tray door assembly removal (models X651, X652/5535dn, X654, and X656)

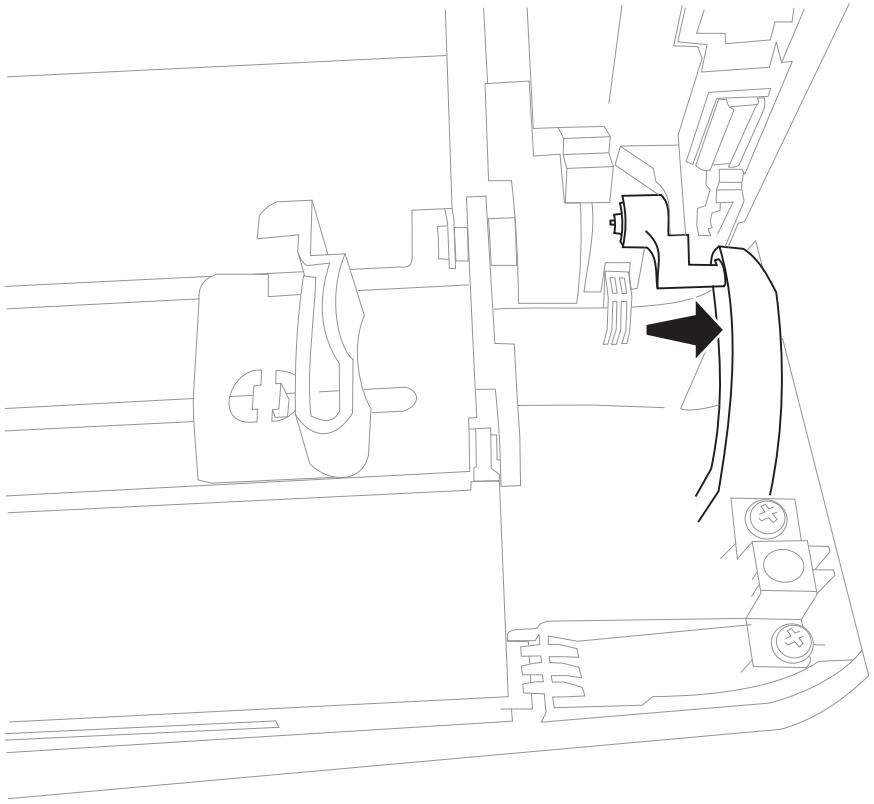
1. Open the MPF tray door.
2. Carefully pry the left and right manual feeder tabs out of the slots in the manual feed tray.



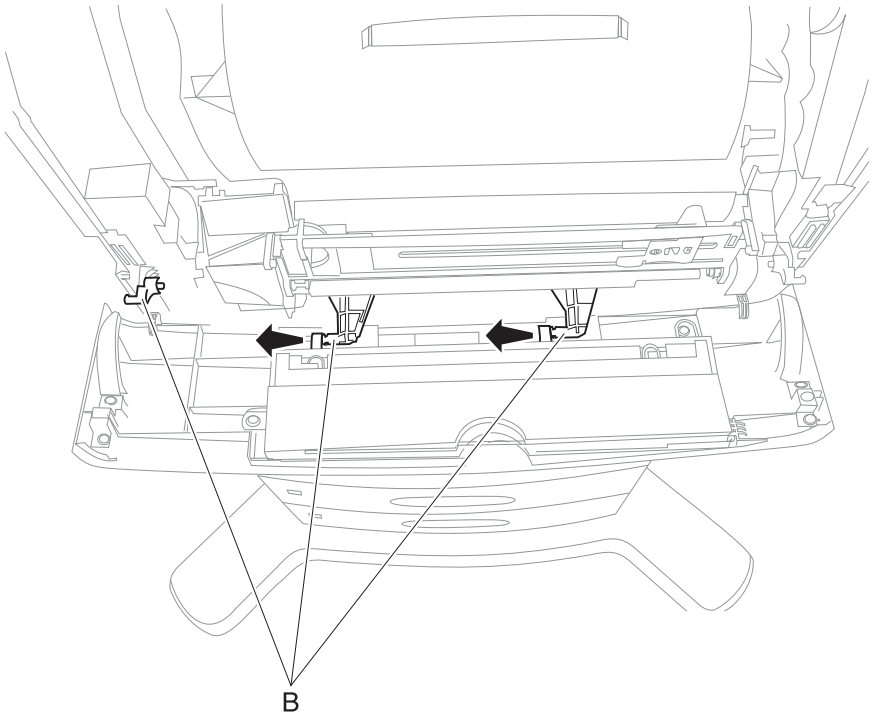
3. Rotate the manual feeder vertical and pull straight up to remove the feeder.
4. Slide the MPF input tray towards the front, and remove two clips (A) securing the MPF door hinges.



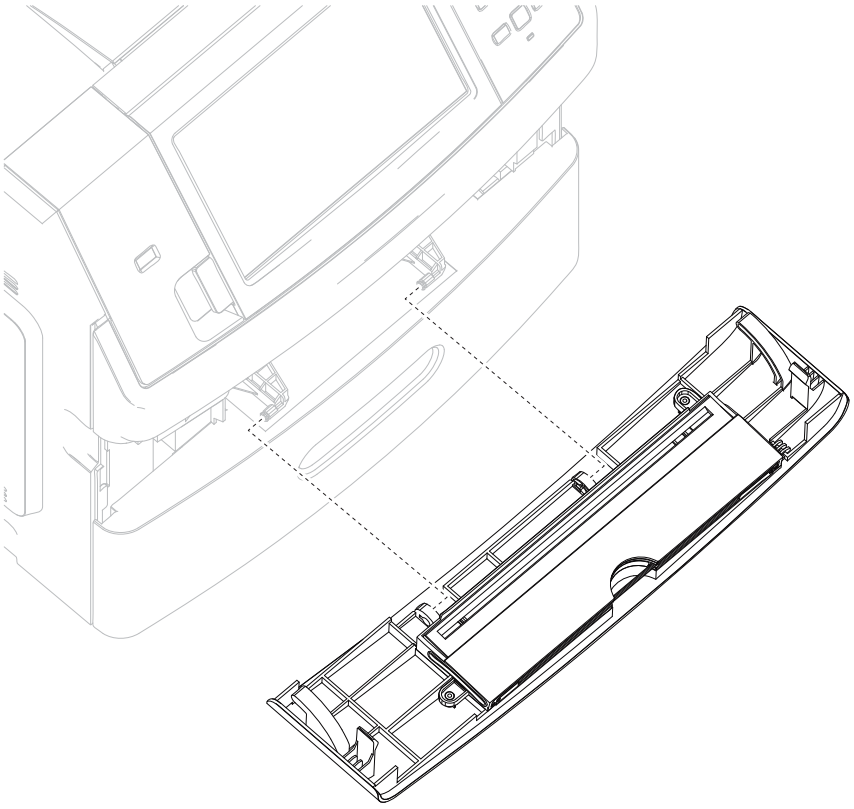
5. Bow the door slightly to remove the right side hinge pin.



6. Slide the door assembly to the left until the door clears all the pins (B).



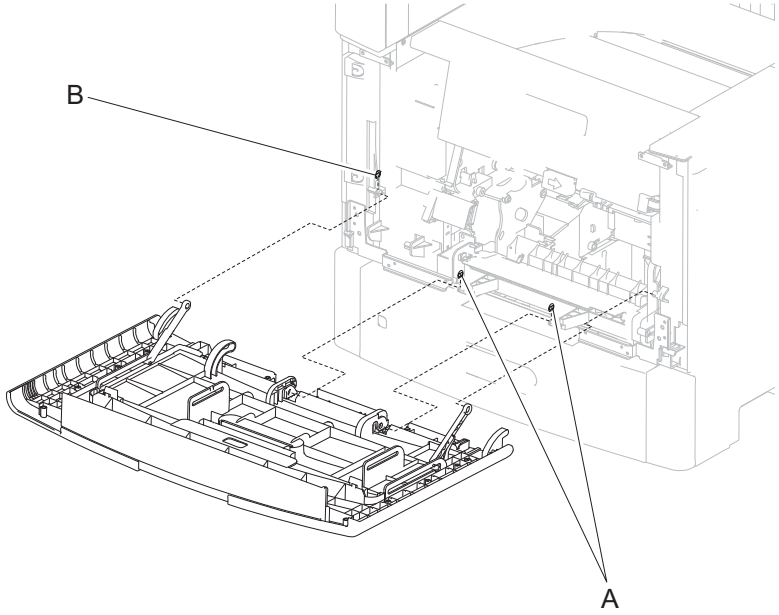
7. Continue to slide the MPF tray door assembly to the left, and remove.



MPF tray door assembly removal (model X658)

1. Open the MPF tray door assembly.
2. Remove the MPF media guide assembly. See **"MPF media guide assembly removal (model X658)" on page 4-108**.
3. Remove the two retaining clips (A) from the hinges on the MPF tray door.

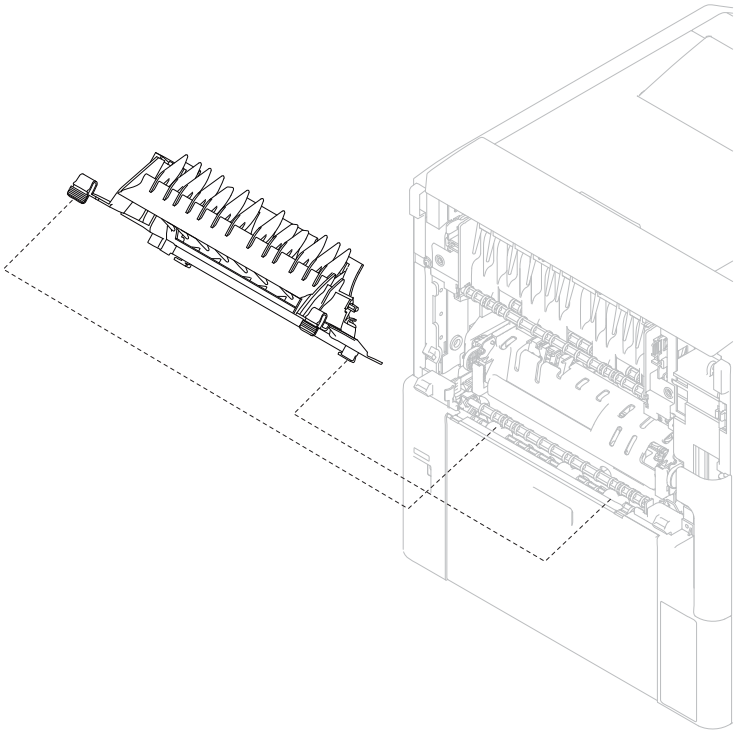
4. Remove the left clip (B) securing the front door tension link.



5. Remove the left tension link.
6. Pull the right tension link from the hinge.
7. Slide the MPF tray door assembly to the left until all the bosses clear the hinges.
8. Angle the left side of the MPF tray door assembly down, and slide it back to the right until the door is clear of the right hinge.
9. Remove the MPF tray door assembly.

Fuser access assembly removal

1. Remove the door assembly, rear. See **"Door assembly, rear removal" on page 4-124**.
2. Pull the fuser access assembly out to remove.

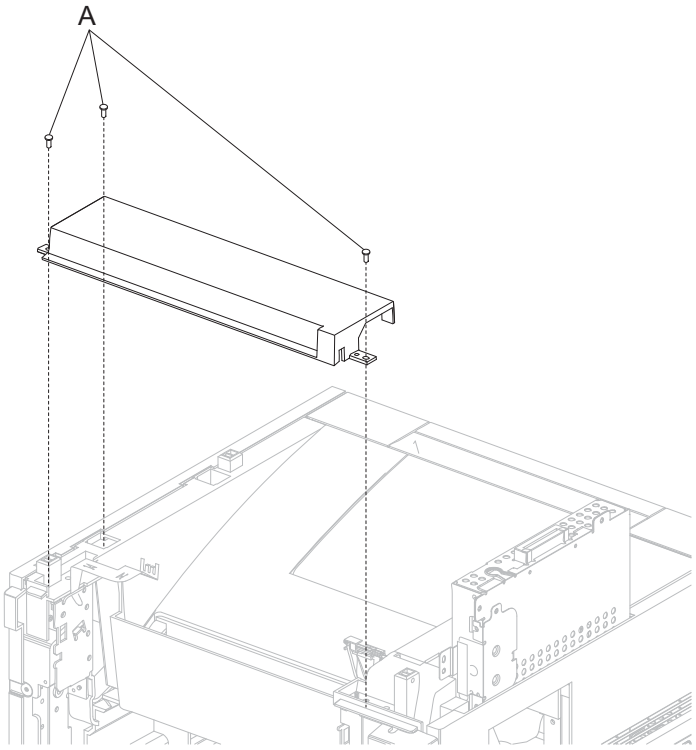


Output cover assembly removal (model X651, X652/5535dn, X654, and X656)

1. Open the door assembly, rear.

Note: If you do not have a short screwdriver, remove the scanner unit assembly. See **"Scanner unit assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-94**.

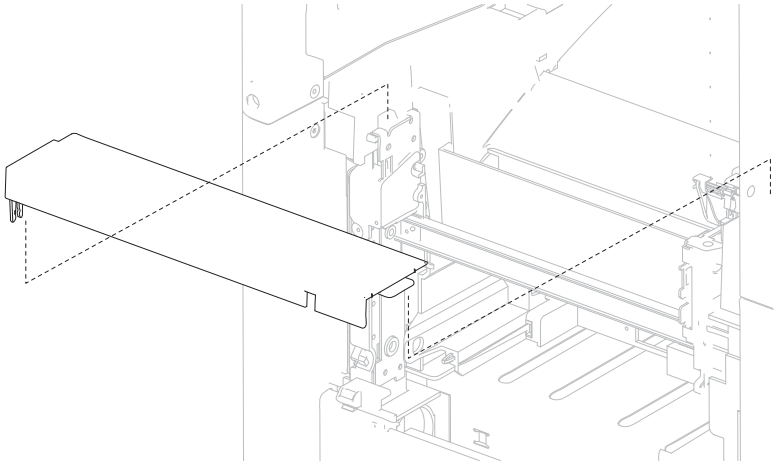
2. Remove the three screws (A) securing the output cover assembly to the machine.



3. Remove the output cover assembly.

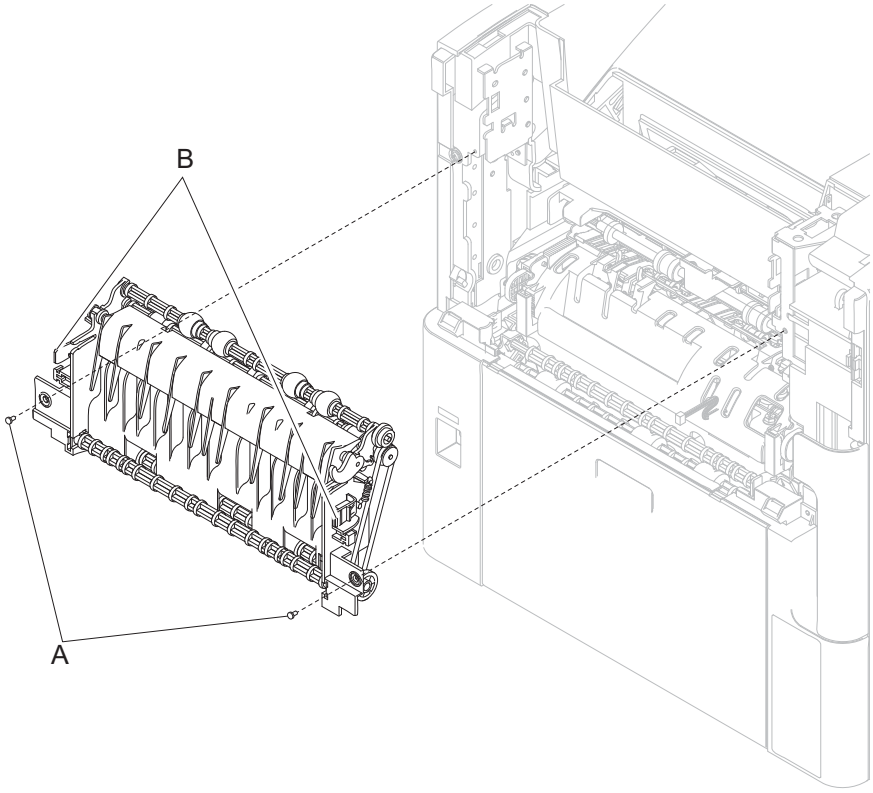
Output cover assembly removal (model X658)

1. Open the door assembly, rear.
2. Lift the right side of the fuser exit access panel and remove.



Redrive assembly removal (model X658)

1. Remove the fuser access assembly. See **"Fuser access assembly removal" on page 4-101**.
2. Remove the two screws (A) securing the redrive assembly to the machine.
3. Remove the fuser wiper cover.
4. Release the left and right clips (B).

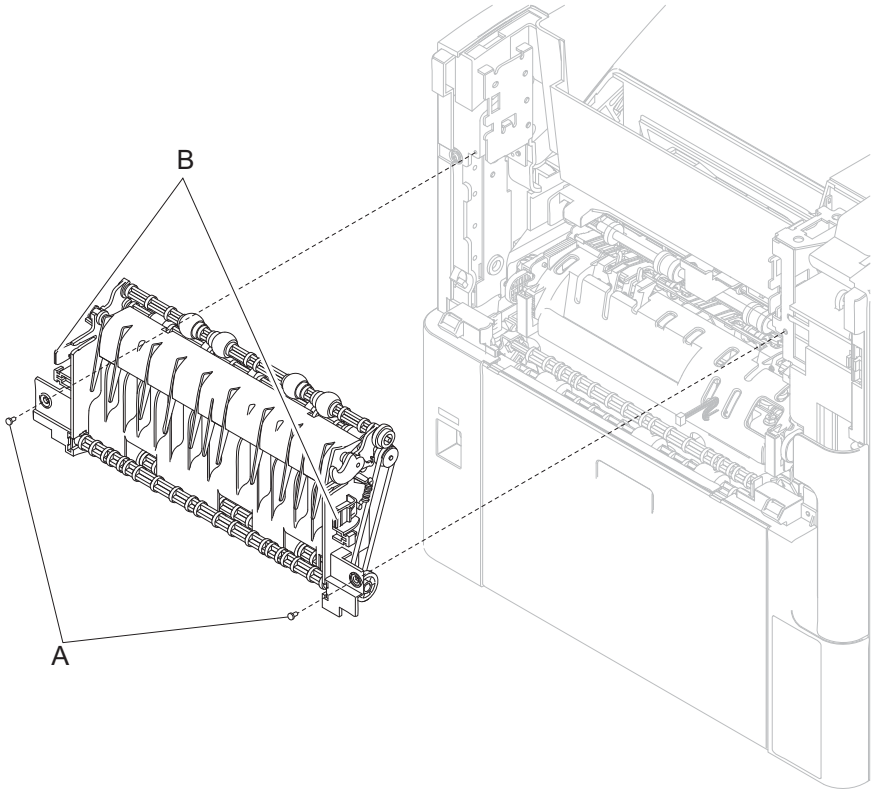


5. Remove the redrive assembly.

Redrive assembly removal (models X651, X652/5535dn, X654, and X656)

1. Remove the fuser access assembly. See **"Fuser access assembly removal" on page 4-101**.
2. Remove the two screws (A) securing the redrive assembly to the machine.
3. Remove the fuser wiper cover.

4. Release the left and right clips (B).

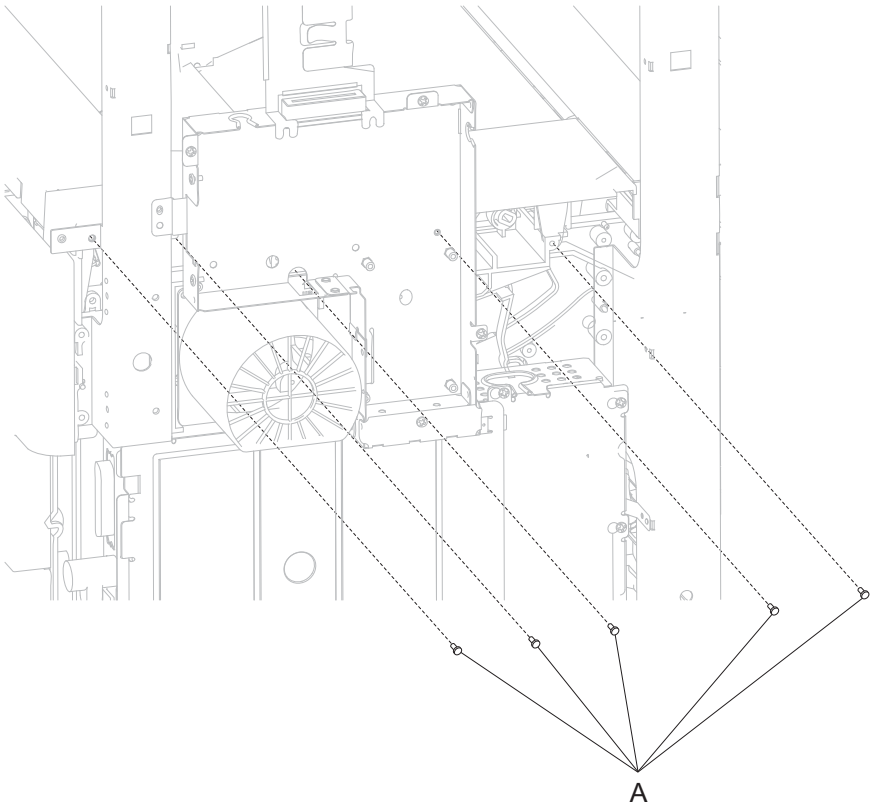


5. Remove the redrive assembly.

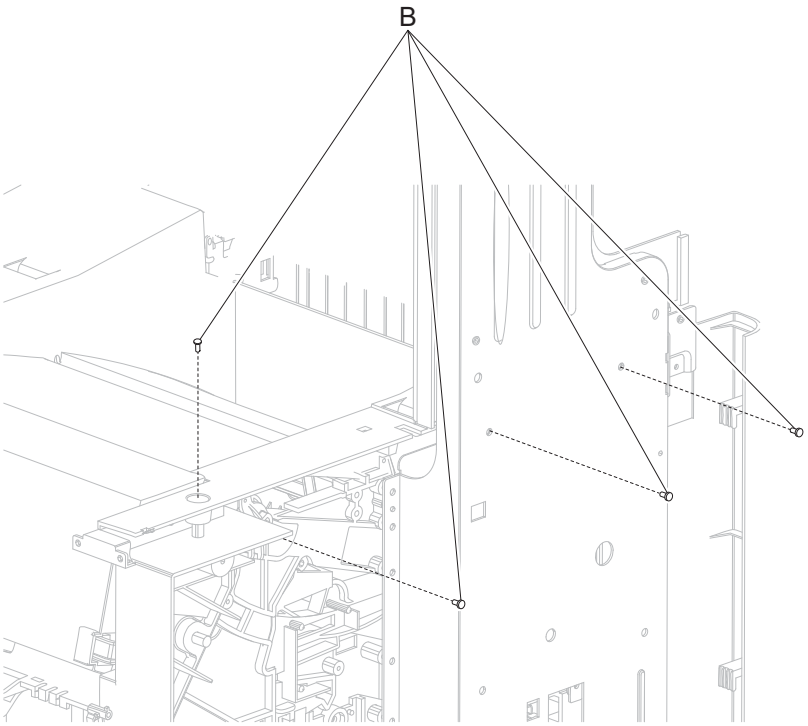
Laser cover removal (model X658)

1. Remove the ADF unit assembly . See **“ADF unit assembly removal (model X658)” on page 4-85.**
2. Remove the scanner unit assembly. See **“Scanner unit assembly removal (model X658)” on page 4-96.**
3. Remove the scanner controller card. See **“Scanner controller card assembly removal (model X658)” on page 4-129**.
4. Remove the redrive assembly. See **“Redrive assembly removal (model X658)” on page 4-103**.

5. Remove the five screws (A) on the left securing the laser cover.

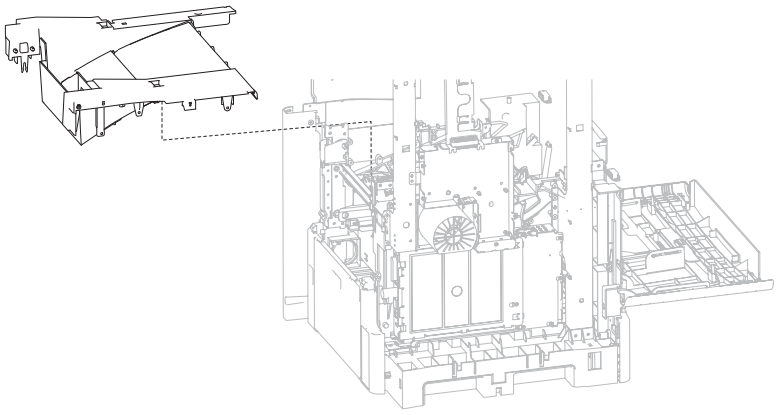


6. Remove the four screws on the right (B) securing the laser cover.



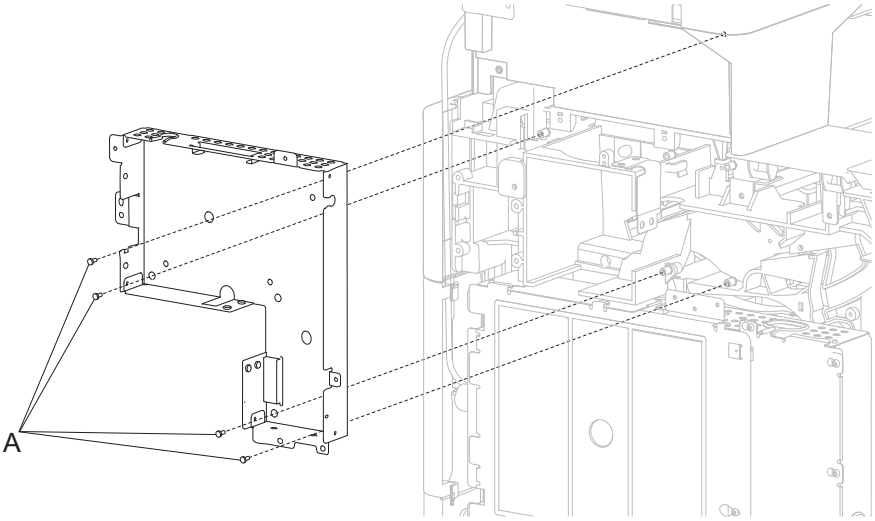
7. Remove the sensor (ADF media exit) fan bracket assembly. See **"Sensor (standard bin exit) actuator assembly removal" on page 4-89**.

8. Remove the print cartridge cover. See **“Print cartridge cover assembly removal (model X658)” on page 4-120**.
9. Remove the laser cover.



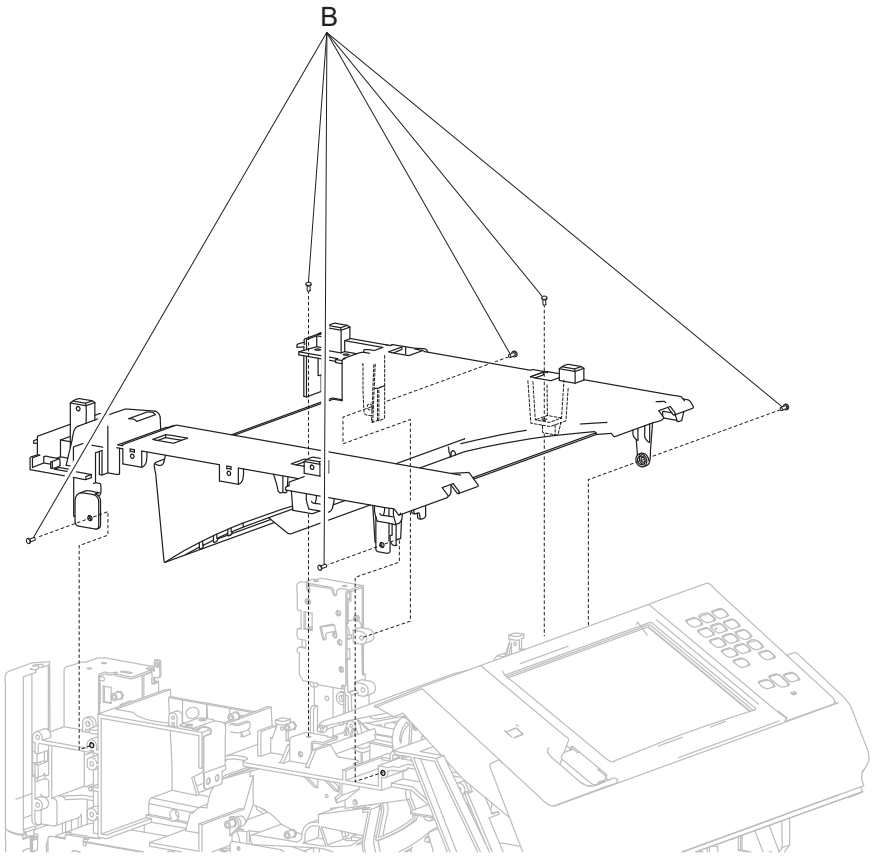
Laser cover removal (models X651, X652/5535dn, X654, and X656)

1. Remove the ADF unit assembly. See **“ADF unit assembly removal (models X651, X652/5535dn, X654, and X656)” on page 4-85.**
2. Remove the scanner unit assembly. See **“Scanner unit assembly removal (models X651, X652/5535dn, X654, and X656)” on page 4-94.**
3. Remove the scanner controller card. See **“Scanner controller card assembly removal (models X651, X652/5535dn, X654, and X656)” on page 4-132** or **“Scanner controller card assembly removal (model X658)” on page 4-129**.
4. Remove the four screws (A) from the controller card cage.

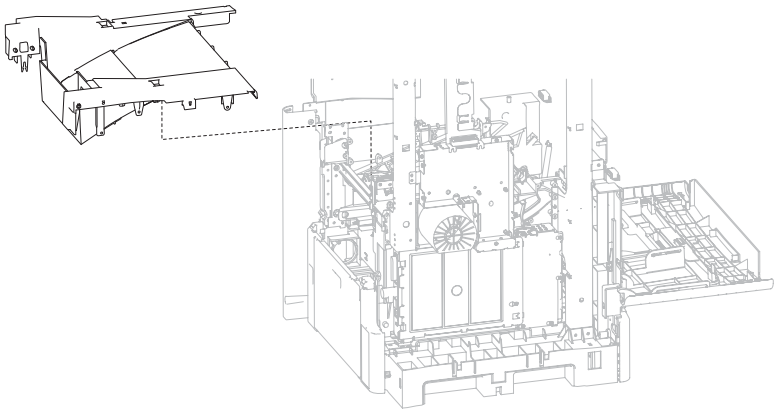


5. Remove the controller card cage.

6. Remove the three screws (B) on either side of the laser cover.

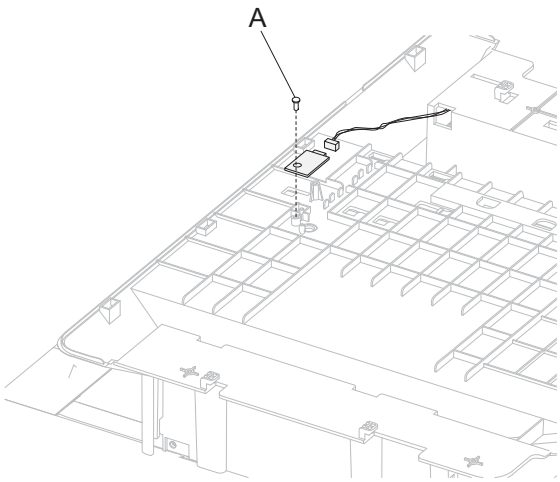


7. Remove the redrive assembly. See **"Redrive assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-103**.
8. Remove the sensor (ADF media exit) bracket assembly. See **"Sensor (ADF media exit) bracket assembly removal (X651)" on page 4-90**.
9. Open the front operator panel door.
10. Remove the laser cover.



Standard output bin LED assembly removal (models X651, X652/5535dn, X654, and X656)

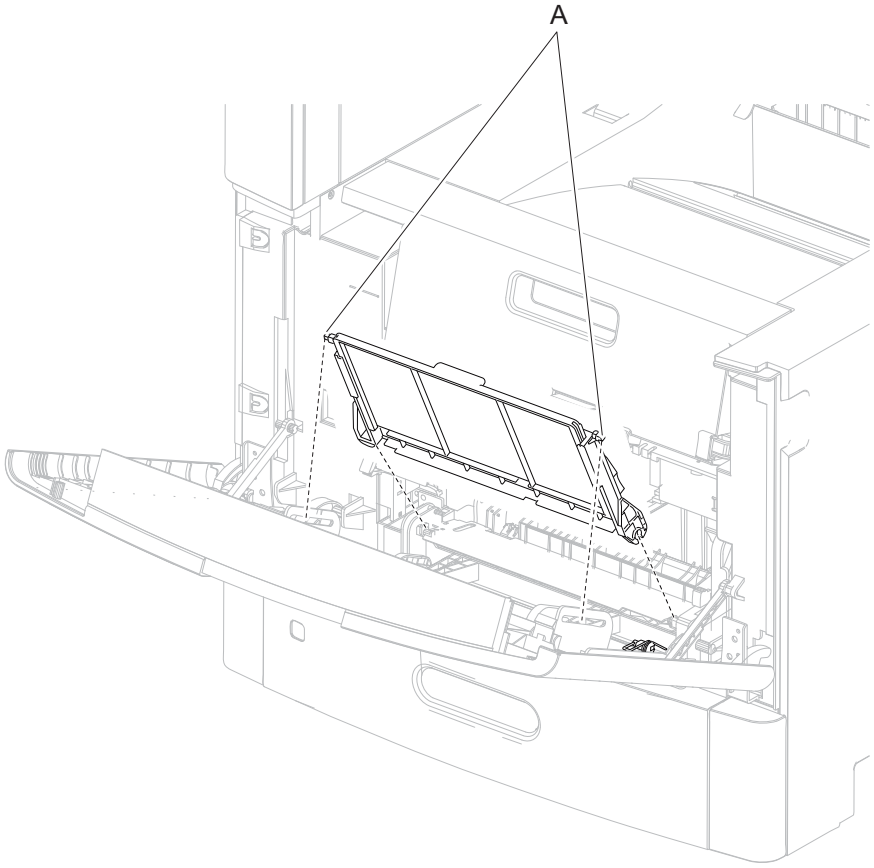
1. Remove the scanner from the scanner support platform. See **"Scanner support platform removal (models X651, X652/5535dn, X654, and X656)" on page 4-141**.
2. Remove screw (A) securing standard output bin LED assembly to the scanner support platform.



3. Remove the standard output bin LED assembly.

MPF media guide assembly removal (model X658)

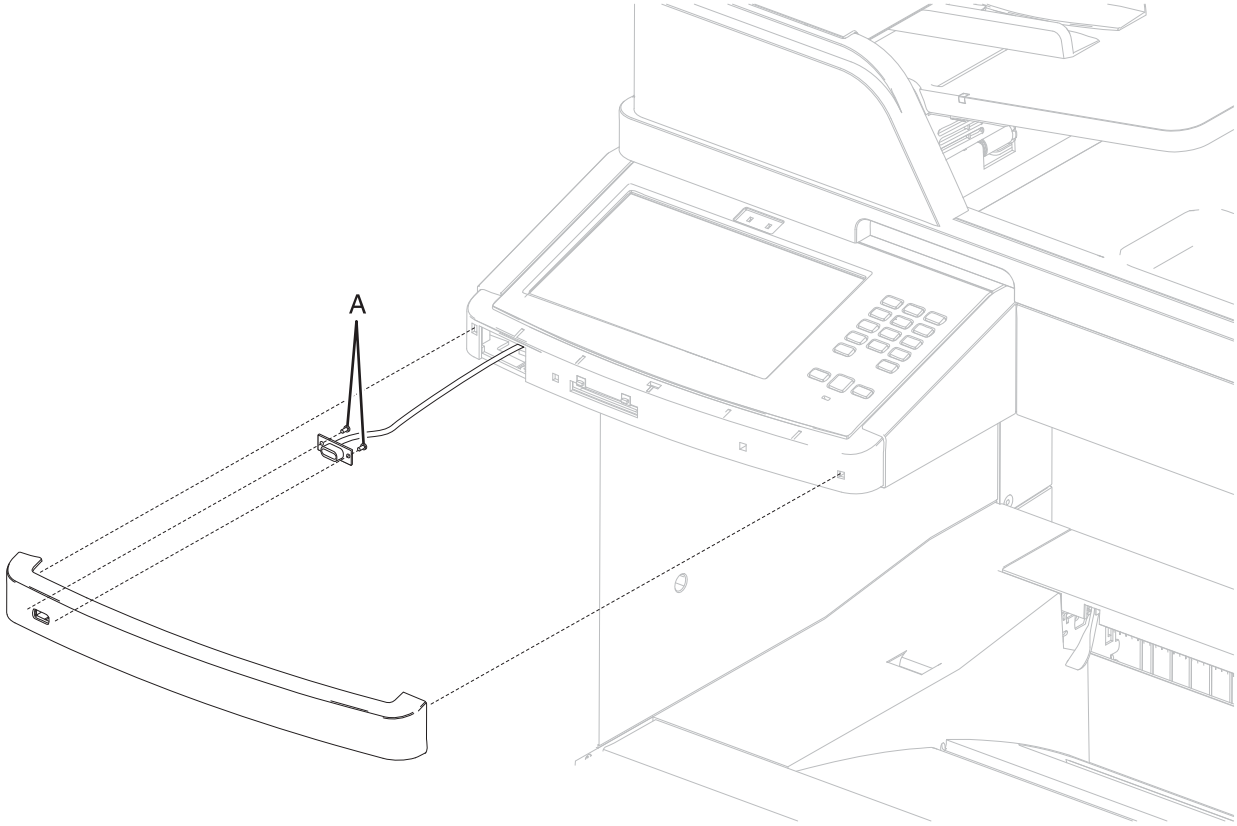
1. Open the MPF feeder door.
2. Remove the two tabs (A) from the slots to disconnect the MPF media guide assembly.



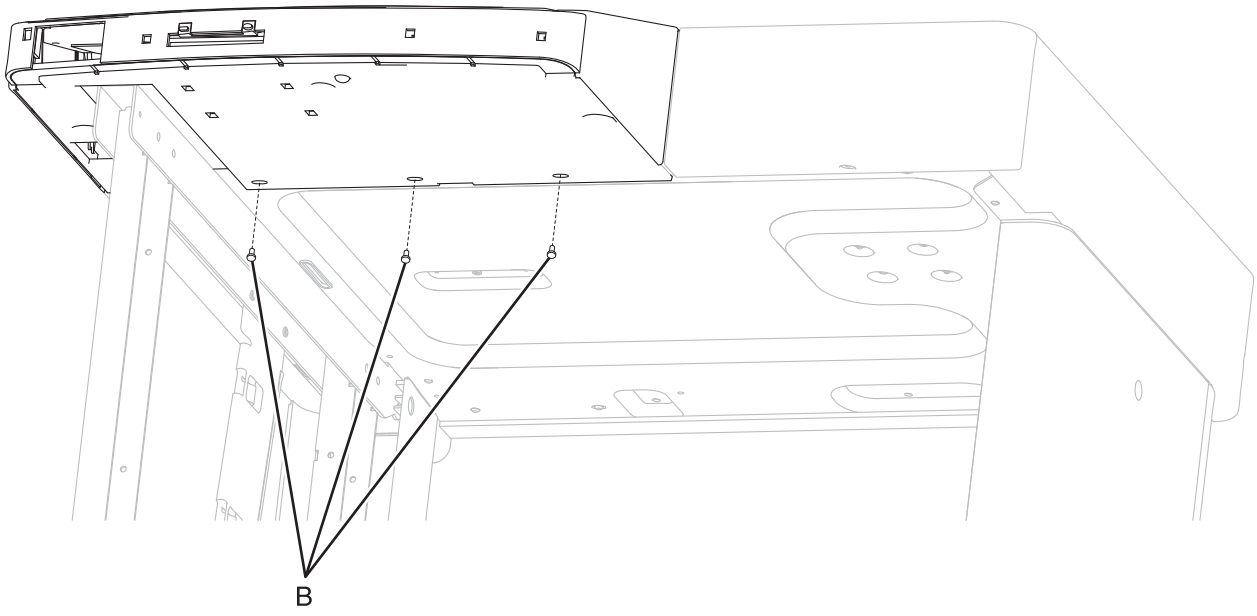
3. Push the spring on the right side down, and remove the MPF media guide assembly, by rotating the assembly vertical and lift up.

Operator panel assembly removal (model X658)

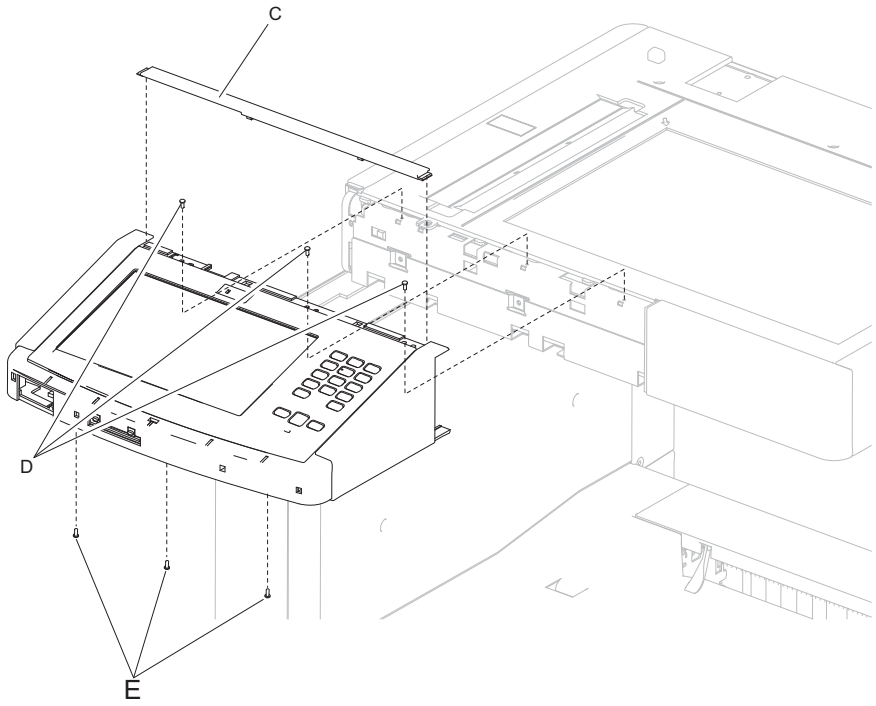
1. Pull the operator panel door assembly forward, and remove.
2. Remove the two screws (A) securing the USB port to the operator panel door assembly.



3. Remove the three screws (B) securing the operator panel assembly bottom to the scanner frame.



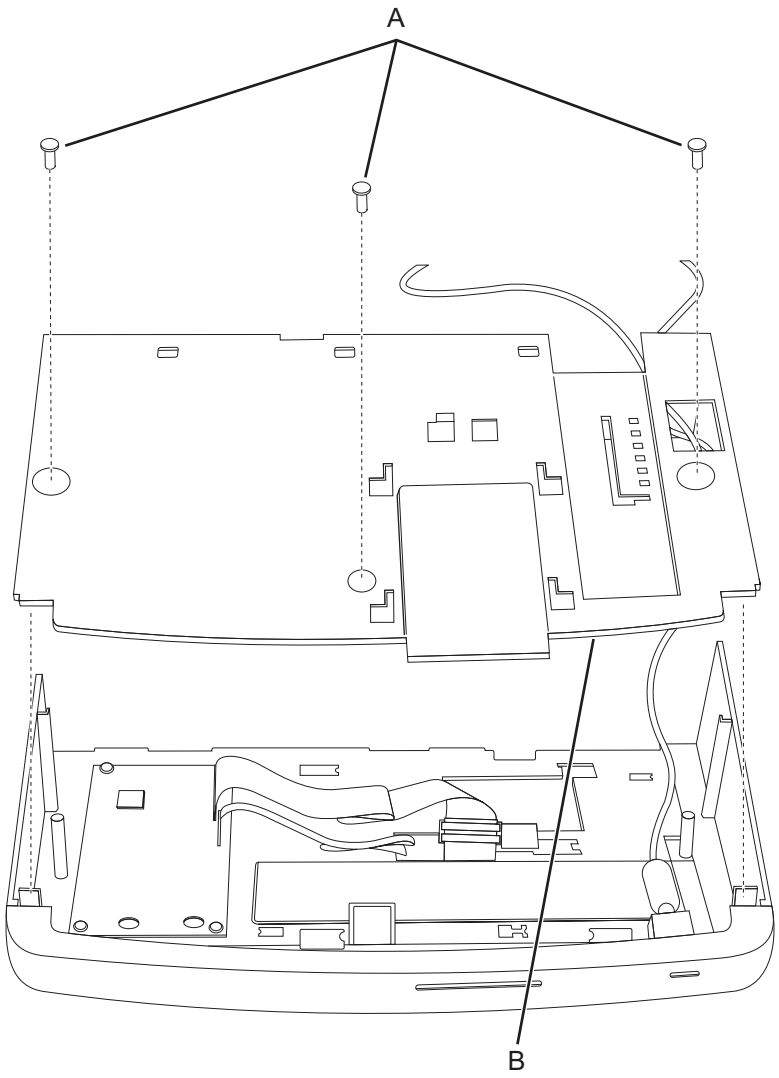
4. Remove the cover strip (C) from the operator panel assembly.
5. Remove the three screws (D) securing the operator panel assembly.
6. Slide the operator panel assembly to the left.
7. Rotate the operator panel assembly upside down, and remove the three screws (E).



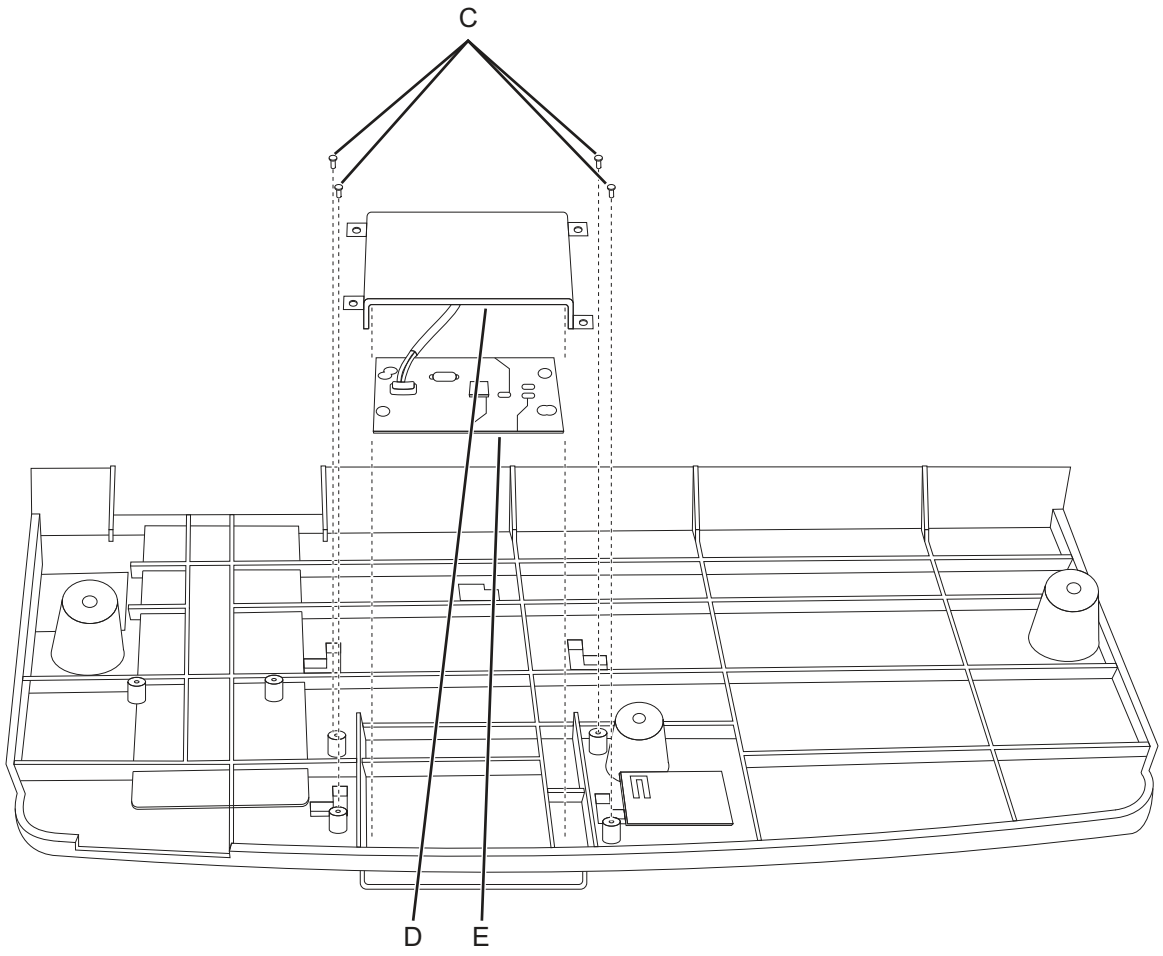
8. Separate the lower panel from the upper panel.
9. Disconnect the operator panel and cave light harnesses.
10. Remove the operator panel assembly.

Card reader assembly removal (model X658)

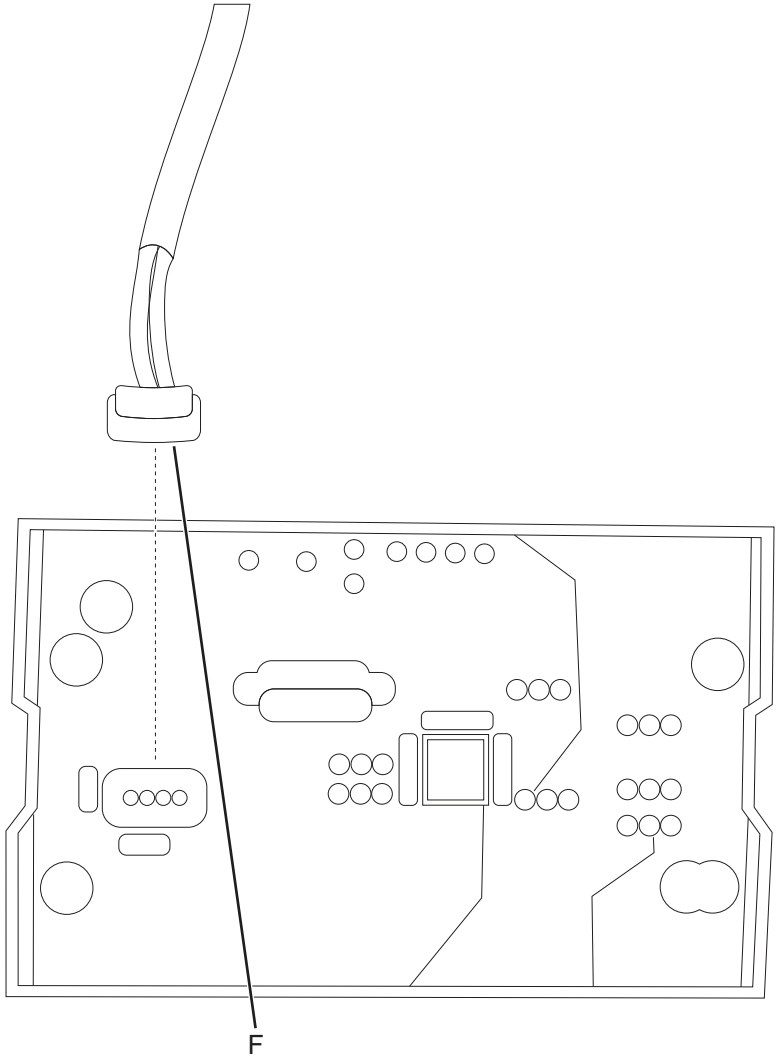
1. Remove the operator panel assembly. See **"Operator panel assembly removal (model X658)" on page 4-109**.
2. Turn over the operator panel assembly.
3. Remove the 3 screws (A) from the back of the operator panel assembly.
4. Separate the lower panel (B) from the upper panel, and turn it over.



5. Remove the four screws (C) securing the the card reader bracket to the lower panel.
6. Remove the bracket (D).
7. Remove the card reader assembly (E).

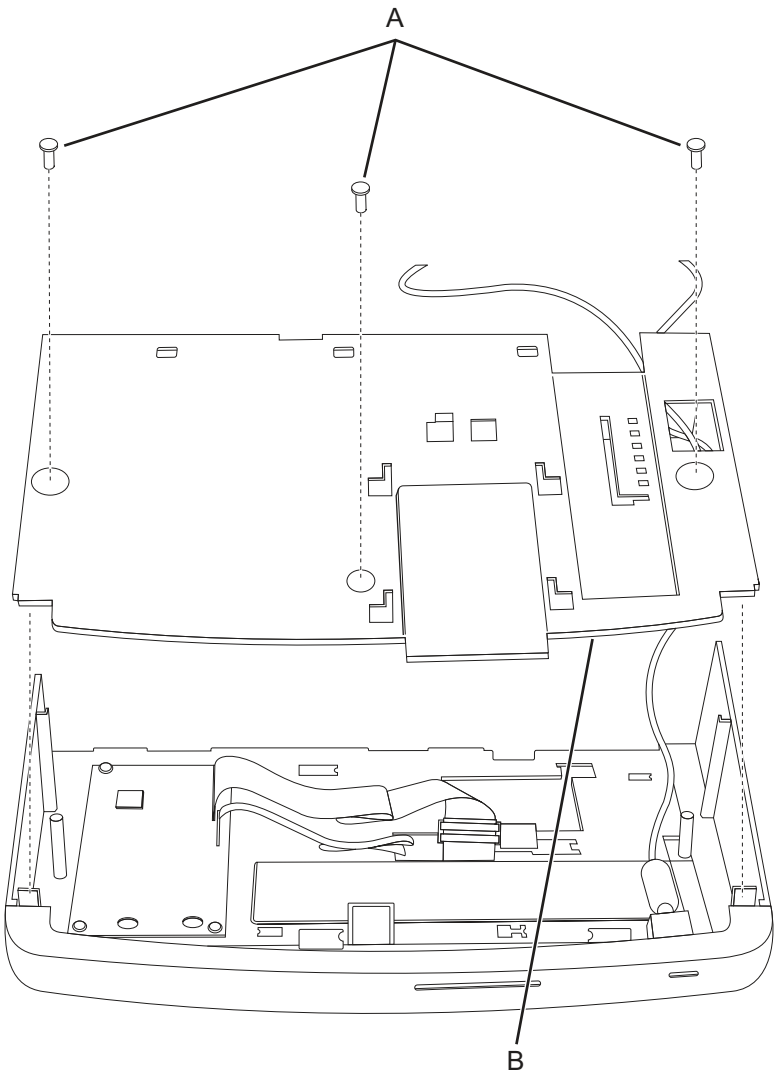


8. Disconnect the cable (F) from the card reader.



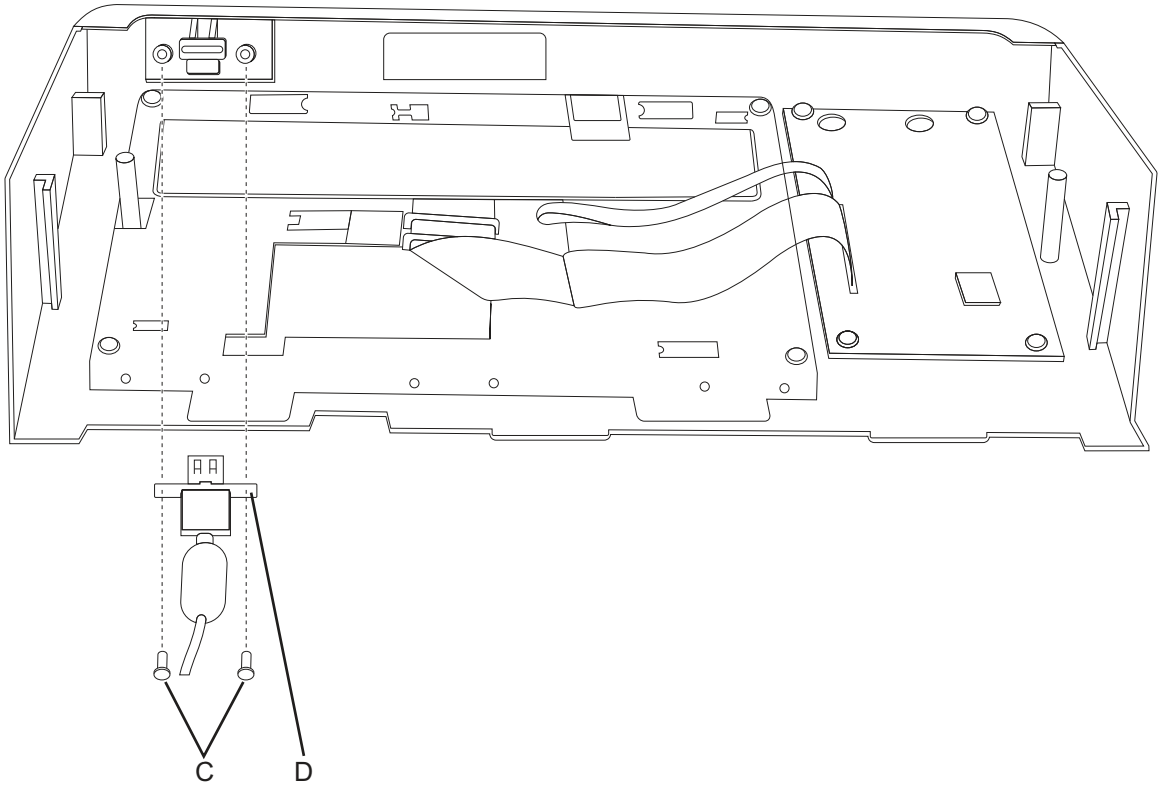
USB cable removal (model X658)

1. Remove the operator panel assembly. See **"Operator panel assembly removal (model X658)" on page 4-109**.
2. Turn over the operator panel assembly.
3. Remove the 3 screws (A) from the back of the operator panel assembly.
4. Separate the lower panel (B) from the upper panel



5. Turn the upper panel to face the inner part.

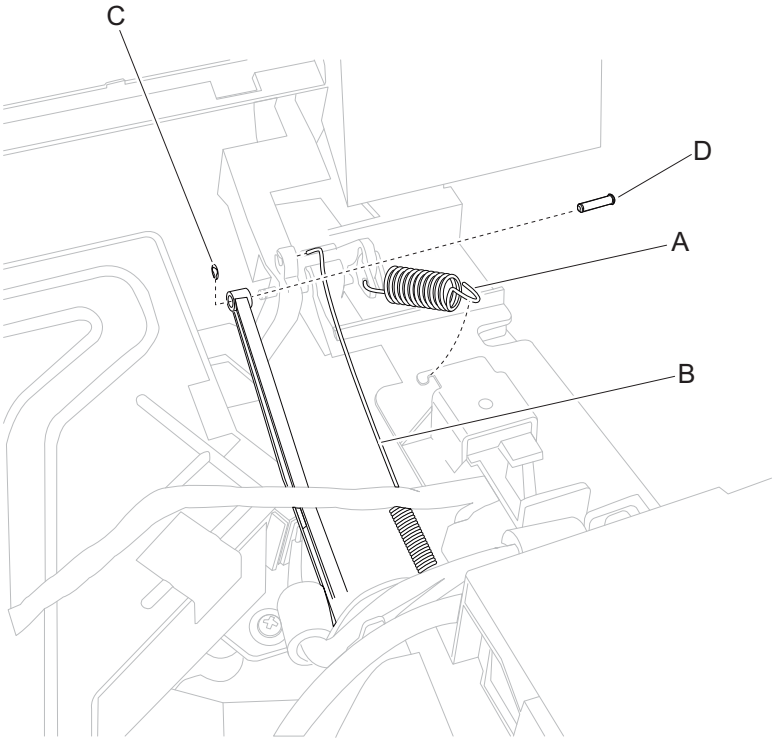
6. Remove the two screws (C) securing the USB cable (D) to the upper panel.
7. Disconnect the USB Cable.



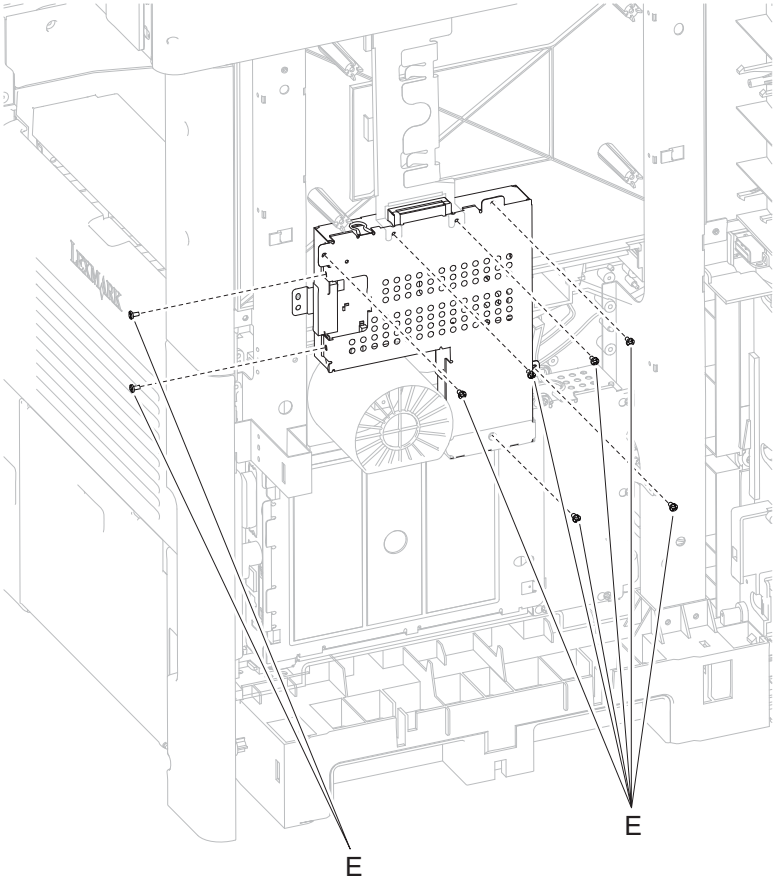
Operator panel door assembly removal (models X651, X652/5535dn, X654, and X656)

1. Remove the laser cover. See **"Laser cover removal (models X651, X652/5535dn, X654, and X656)" on page 4-106**.
2. Remove the counter balance springs (A) on both sides.
3. Remove the print cartridge cover springs (B) on both sides.
4. Remove the E-clips (C) on both sides securing the links to the hinges, and remove the links.

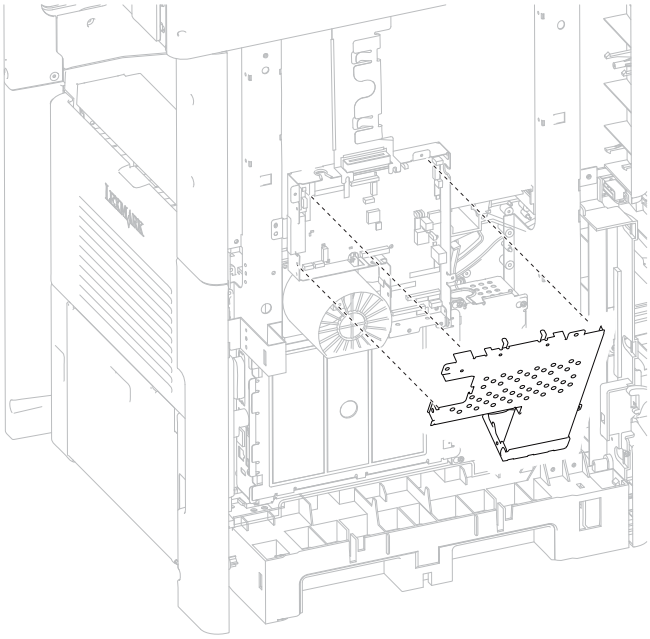
5. Remove the pins (D) on both sides securing the links.



6. Remove eight screws (E) securing the scanner controller cage cover to the cage. An X658 model is represented in the graphic below, however, the card cage cover removal procedure is similar for all models.

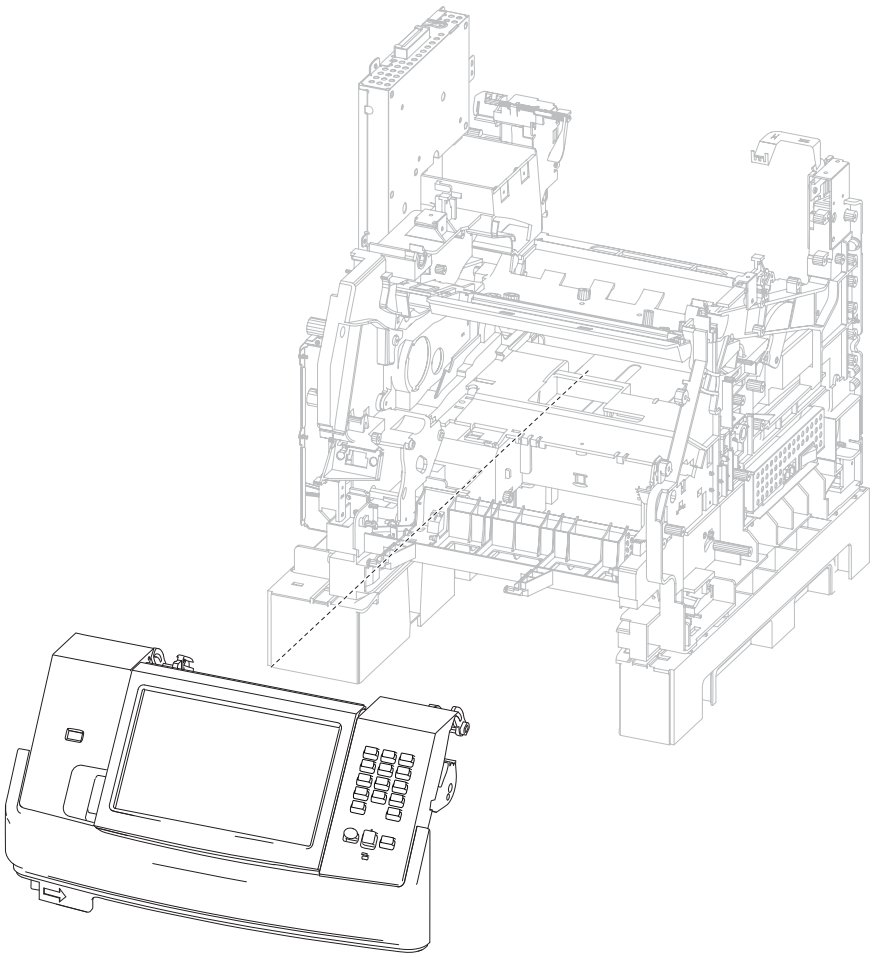


7. Remove the printer controller card cage cover.



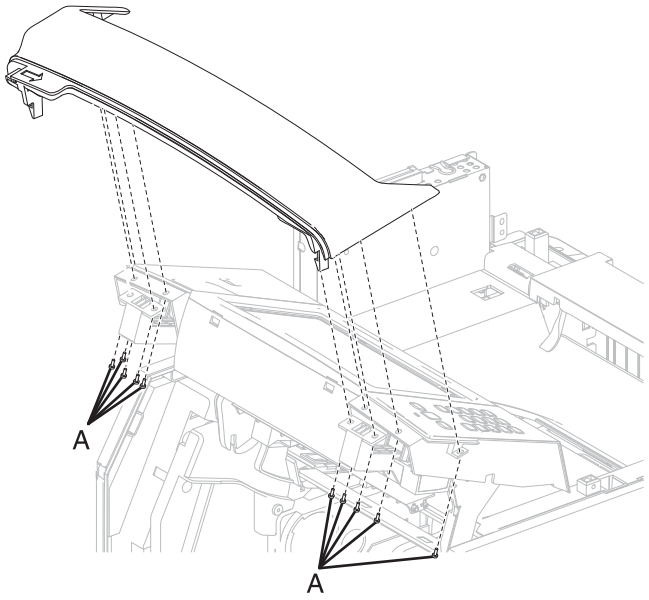
8. Disconnect the USB cable and the cover closed interlock switch harness.

9. Lift the operator panel door assembly out of the machine.



Operator panel cover latch assembly removal (models X651, X652/5535dn, X654, and X656)

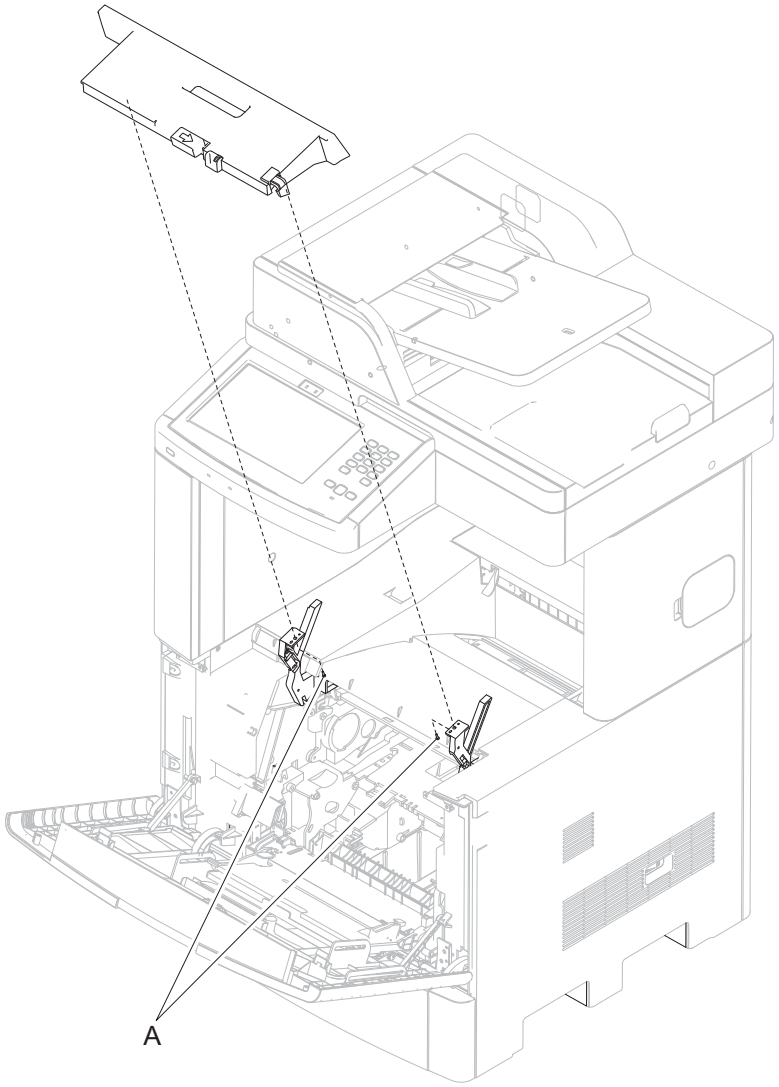
1. Lift the operator panel cover assembly.
2. Remove the ten screws (A) securing the operator panel cover latch assembly to the operator panel cover assembly.



3. Remove the operator panel cover latch assembly.

Print cartridge cover assembly removal (model X658)

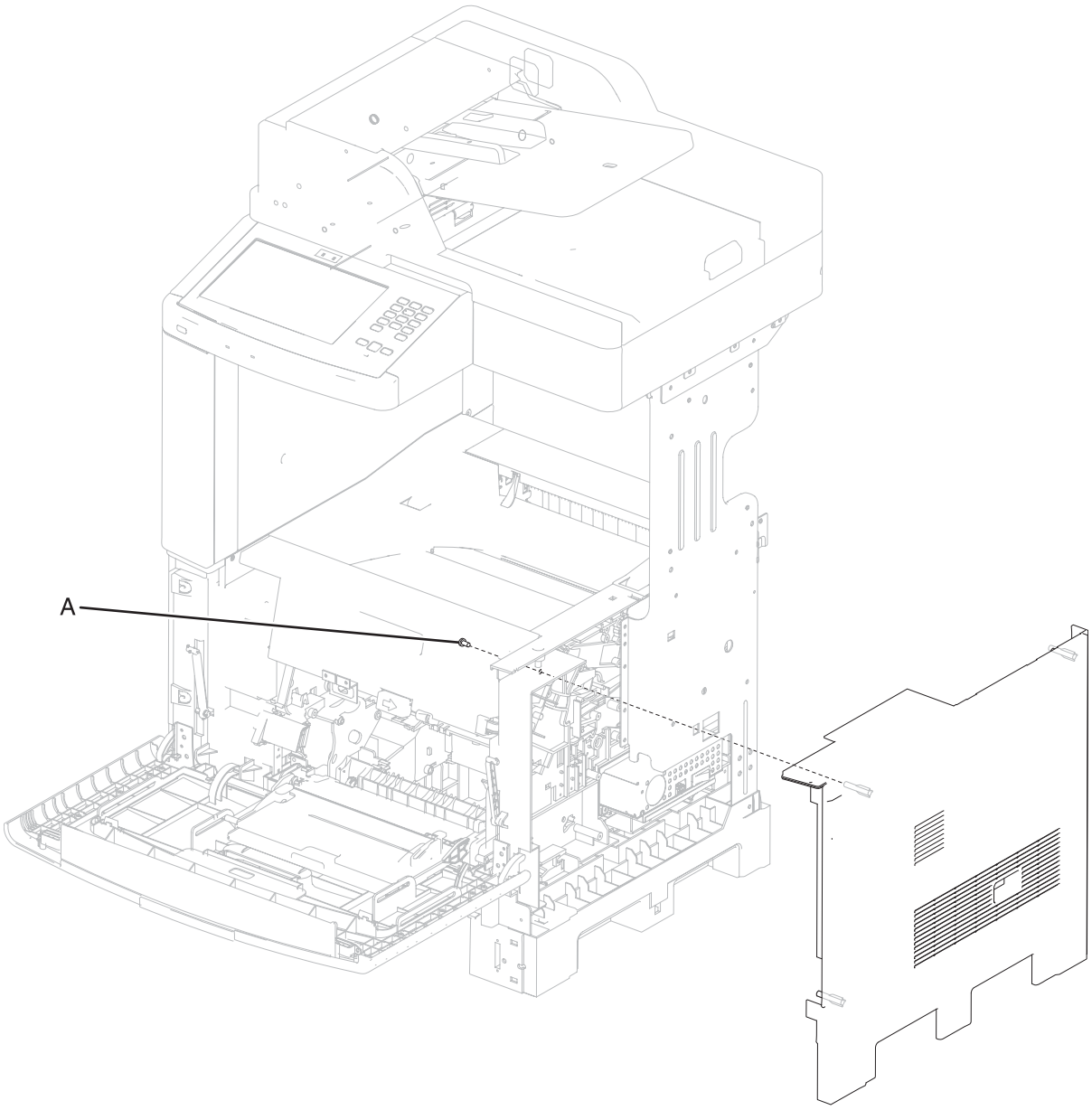
1. Open the print cartridge cover assembly.
2. Remove the two screws (A) securing the print cartridge cover assembly.



3. Remove the cartridge access door.

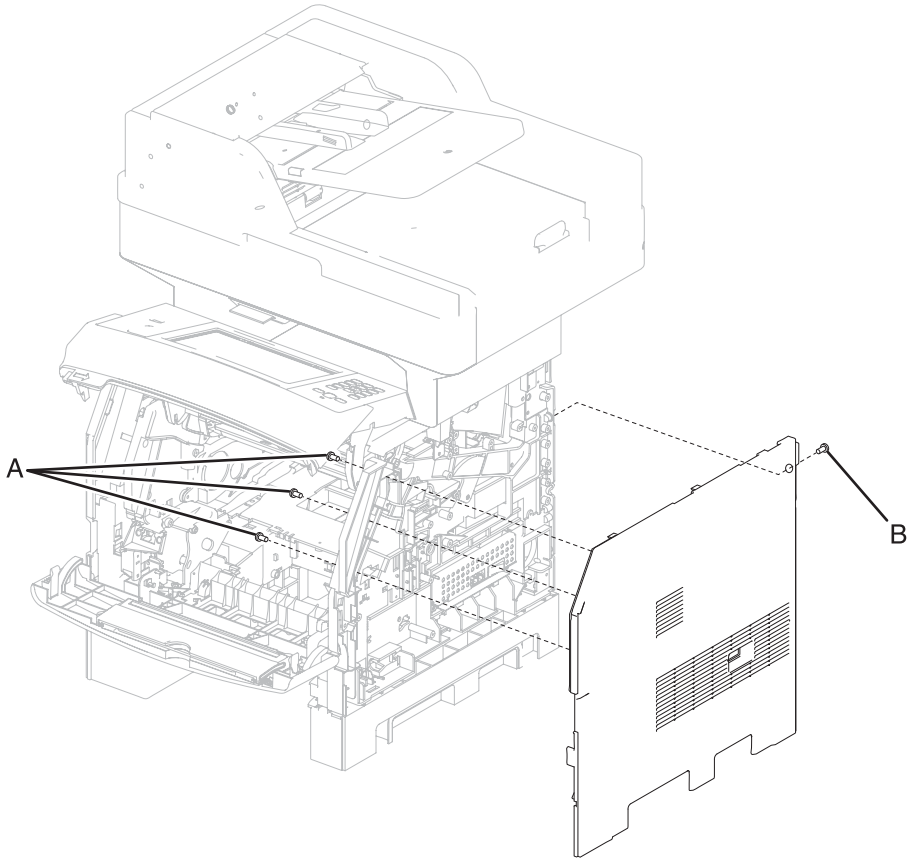
Side cover, right removal (model X658)

1. Remove the cover, left rear corner. See **“Cover, left rear corner removal (model X658)” on page 4-88**.
2. Open the front door.
3. Open the cartridge access door.
4. Remove the screw (A), and pull the side cover, right up and out to remove.



Side cover, right removal (models X651, X652/5535dn, X654, and X656)

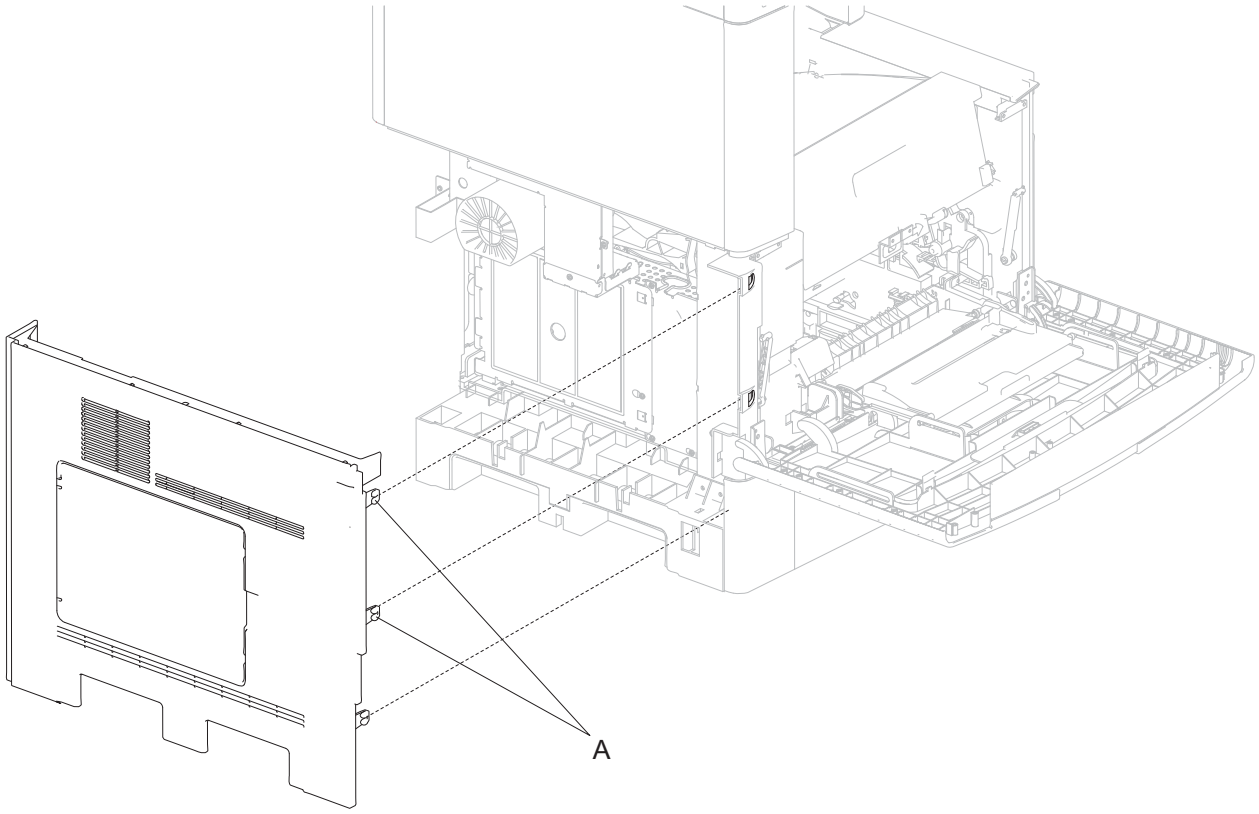
1. Remove the door assembly, rear assembly. See **"Door assembly, rear removal" on page 4-124**.
2. Remove the cover, rear lower. See **"Cover, rear lower removal" on page 4-125**.
3. Open the paper tray.
4. Open the MPF door.
5. Open the front door assembly.
6. Remove three screws (A) from the front.
7. Remove the screw (B) from the rear.



8. Firmly grasp the cover from the top, and pull out to remove.

Side cover, left removal (model X658)

1. Remove the cover, left rear corner. See **“Cover, left rear corner removal (model X658)” on page 4-88**.
2. Open the cartridge access door.
3. Release the two tabs (A) in the front.

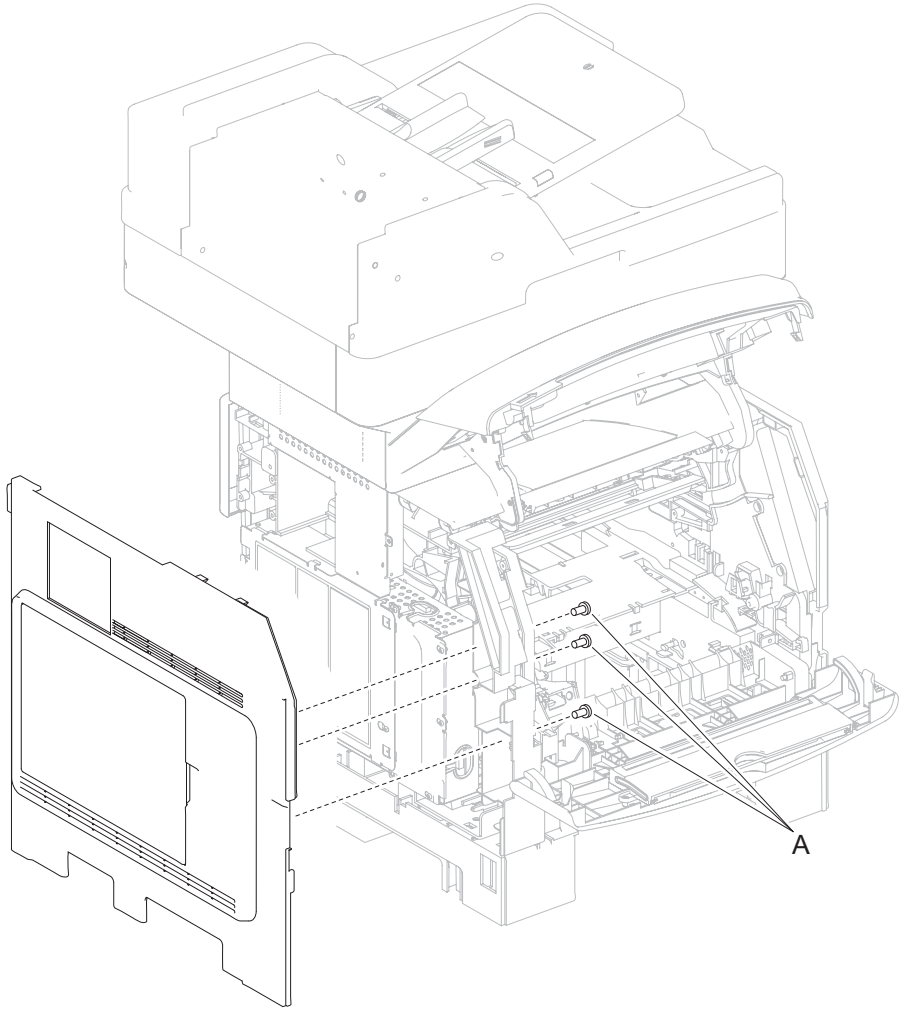


4. Remove the side cover, left.

Side cover, left removal (models X651, X652/5535dn, X654, and X656)

1. Remove the door assembly, rear. See **“Door assembly, rear removal” on page 4-124**.
2. Remove the rear lower door. See **“Cover, rear lower removal” on page 4-125**.
3. Remove the paper tray.
4. Open the MPF door.
5. Open the cartridge access door.

6. Remove the three screws (A) securing the side cover, left to the machine.

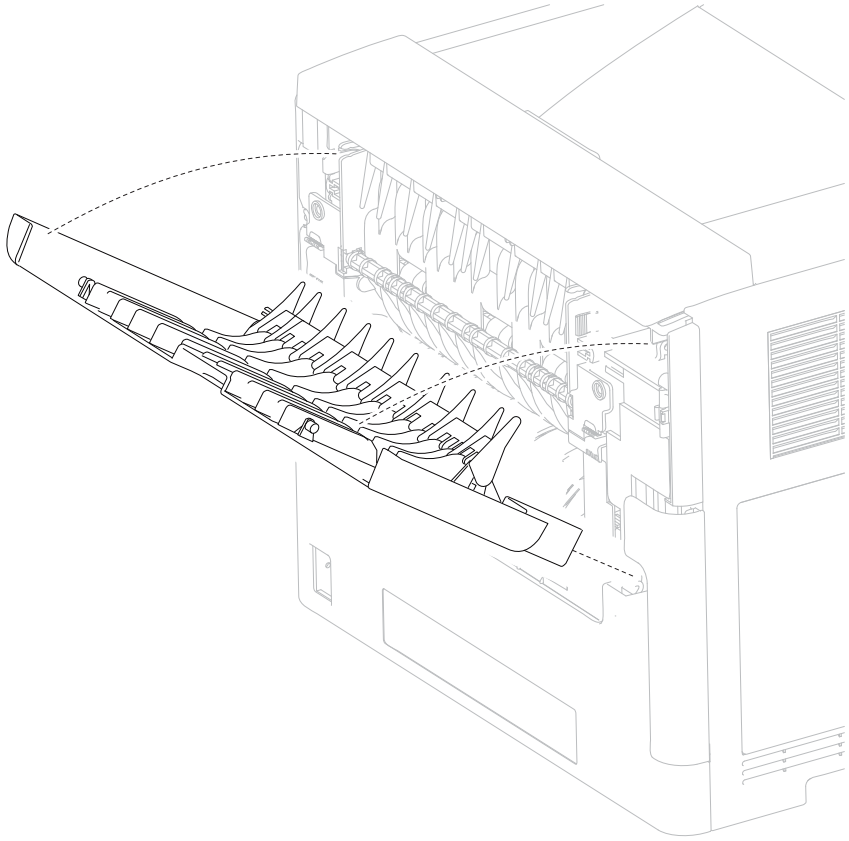


7. Remove the side cover, left by pulling out the tabs on the top and bottom and by pulling the cover out of its rear hinges.

Door assembly, rear removal

1. Open the door assembly, rear.
2. Twist the door strap left or right until vertical, and pull the strap out of the slot.
3. Position the door assembly, rear at a 45° angle as shown in the picture.

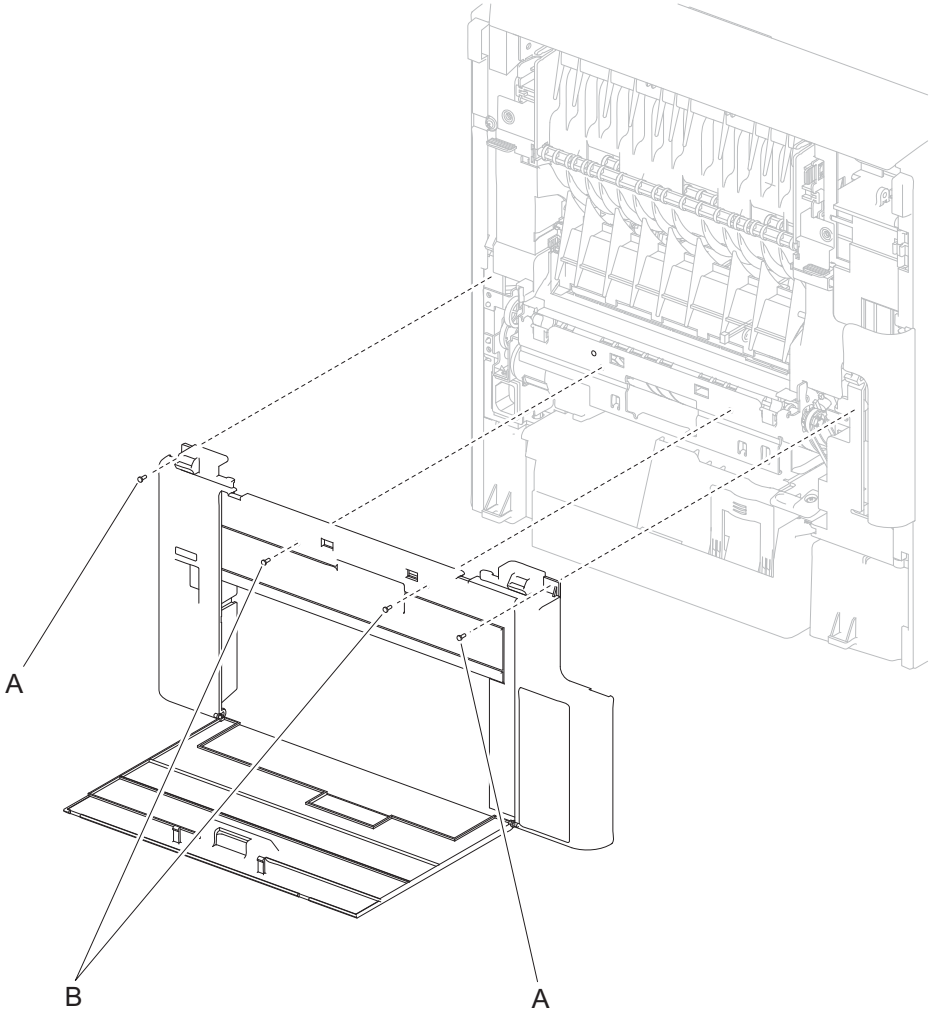
4. Remove the door assembly, rear.



Cover, rear lower removal

1. Remove the door assembly, rear. See **“Door assembly, rear removal” on page 4-124**.
2. Remove the two screws (A) on each side of the cover.
3. Open the cover, rear lower.

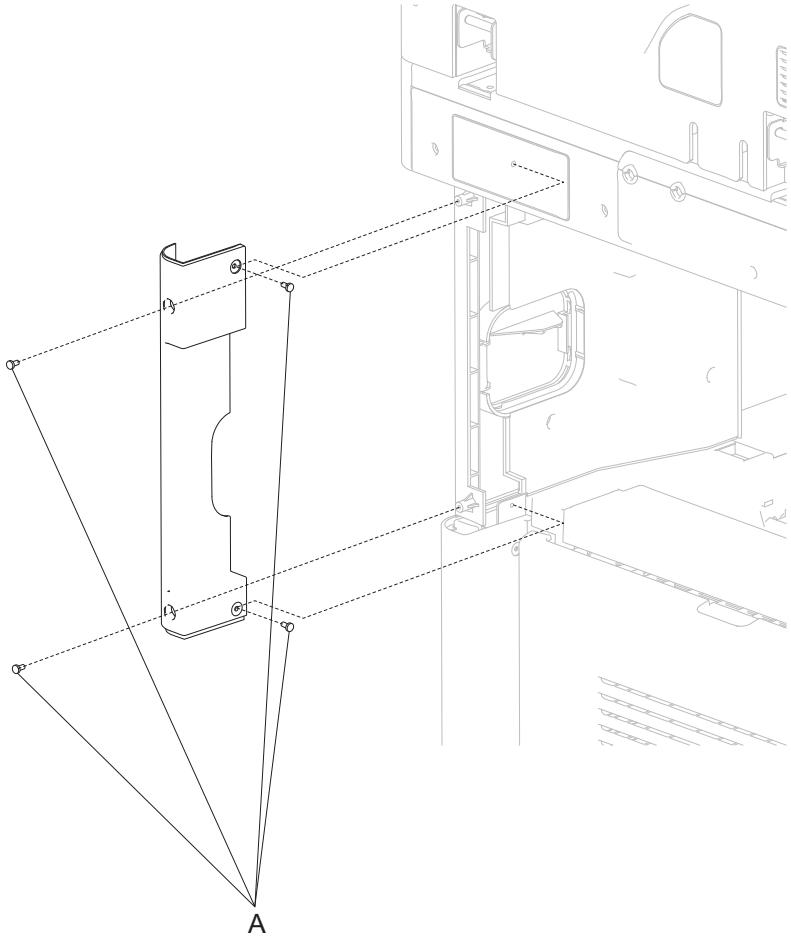
4. Remove the remaining two screws (B).



5. Lift and remove the cover, rear lower.

Scanner support cover, right rear removal (model X658)

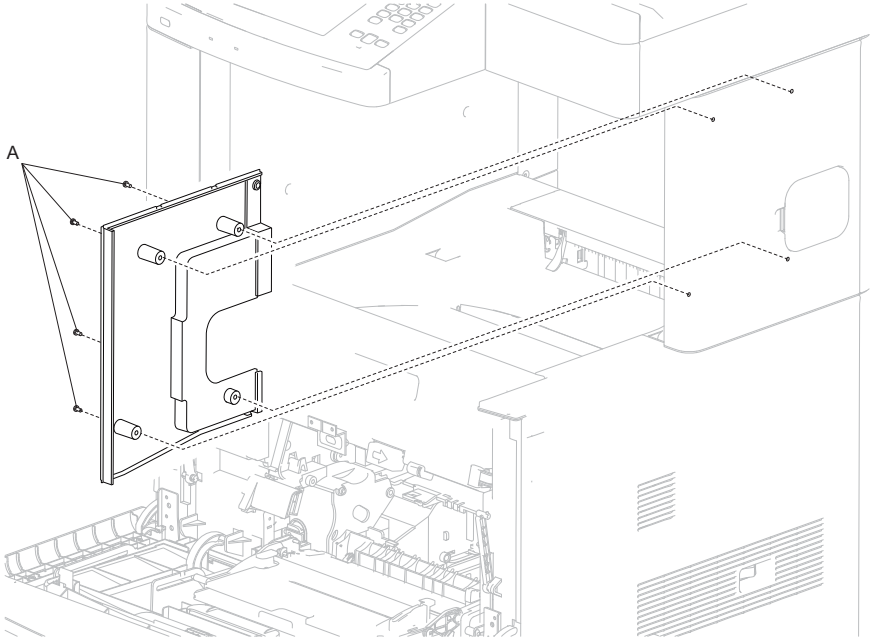
1. Remove the four screws (A) securing the scanner support cover, right rear to the machine.



2. Remove the scanner support cover, right rear.

Scanner support inner cover, right removal (model X658)

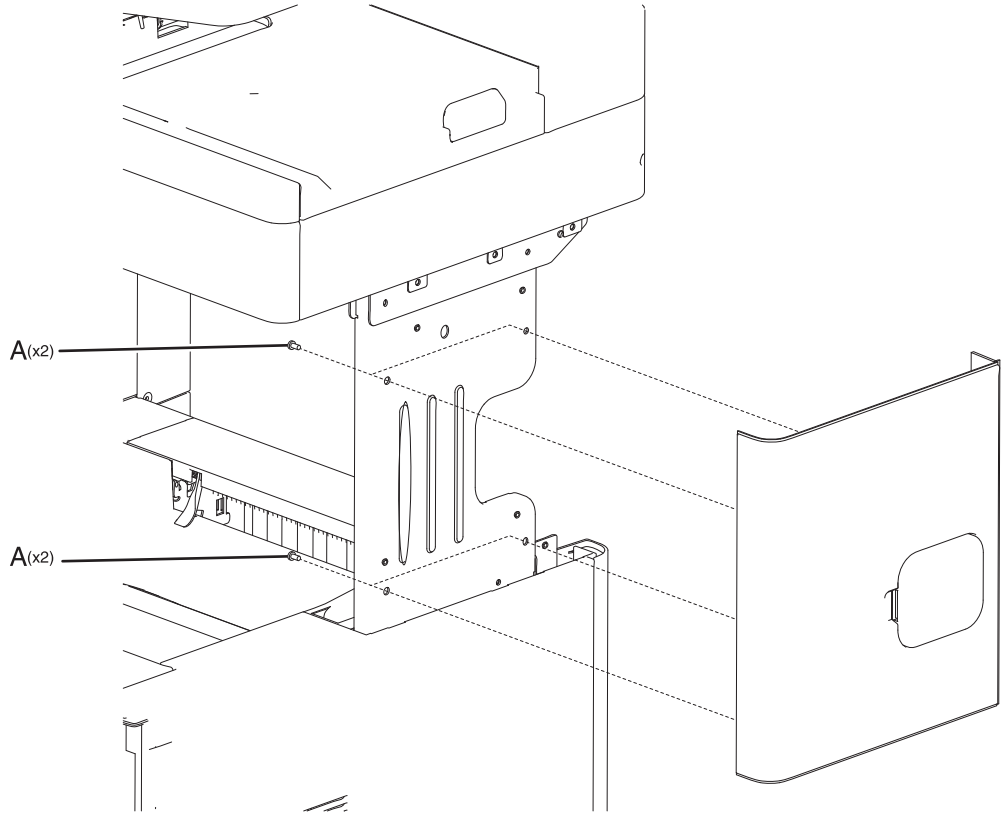
1. Remove the scanner support cover, right rear. See **“Scanner support cover, right rear removal (model X658)” on page 4-127**.
2. Remove the four screws (A) securing the scanner support inner cover, right to the machine.



3. Pull the bottom out, and remove the scanner support inner cover, right.

Scanner support cover, right removal (model X658)

1. Remove the scanner support inner cover, right. See **"Scanner support inner cover, right removal (model X658)" on page 4-128**.
2. Remove the four (A) screws securing the scanner support cover, right to the machine.

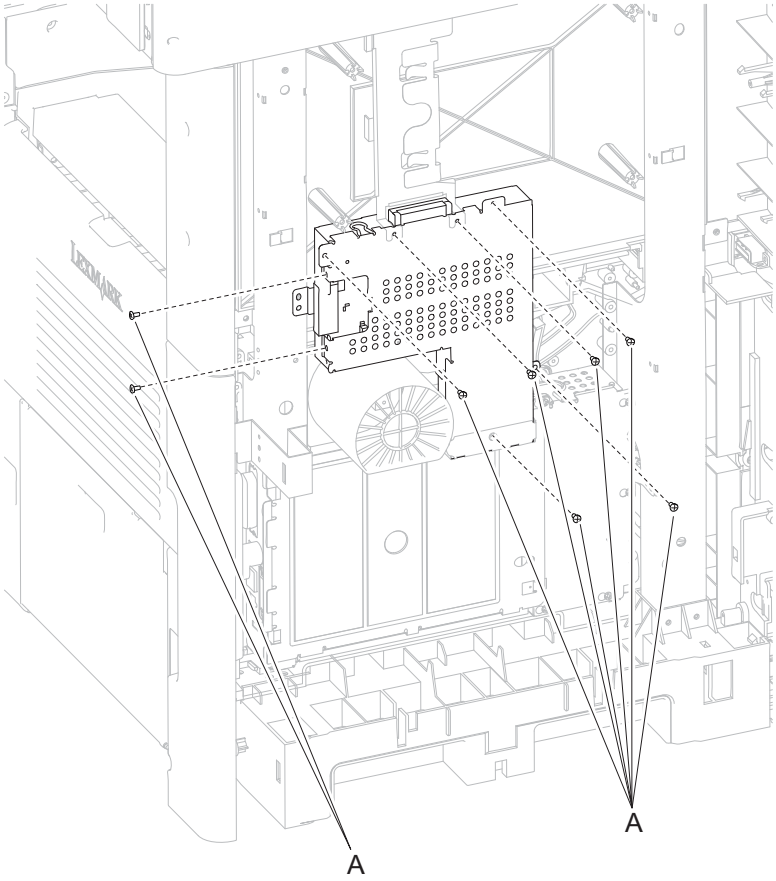


3. Remove the scanner support cover, right.

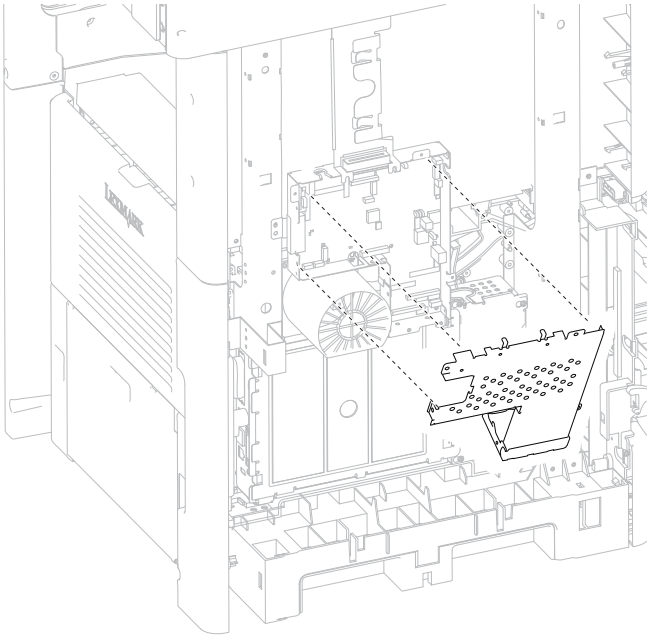
Scanner controller card assembly removal (model X658)

1. Remove the scanner support cover, left. See **"Scanner support cover, left removal (model X658)" on page 4-152**.
2. Remove the side cover, left. See **"Side cover, left removal (model X658)" on page 4-123**.

3. Remove eight screws (A) securing the scanner controller cage cover to the cage.

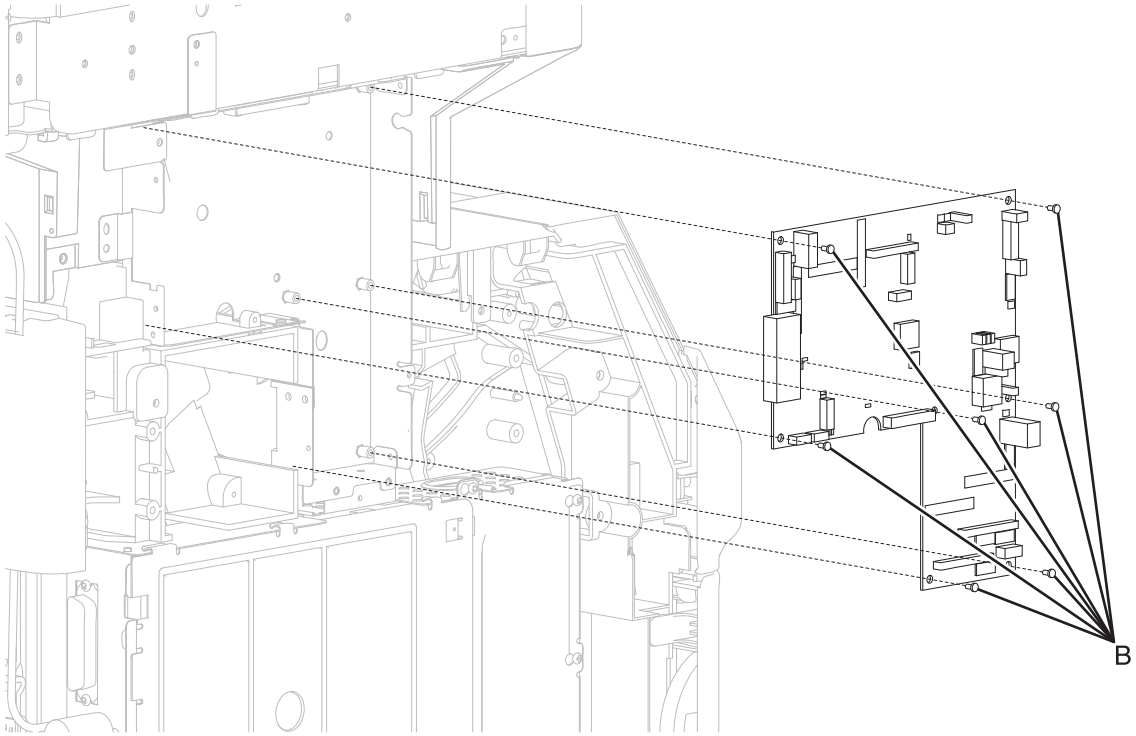


4. Remove the scanner controller card cage cover.



5. Disconnect all the harnesses and ribbon cables.

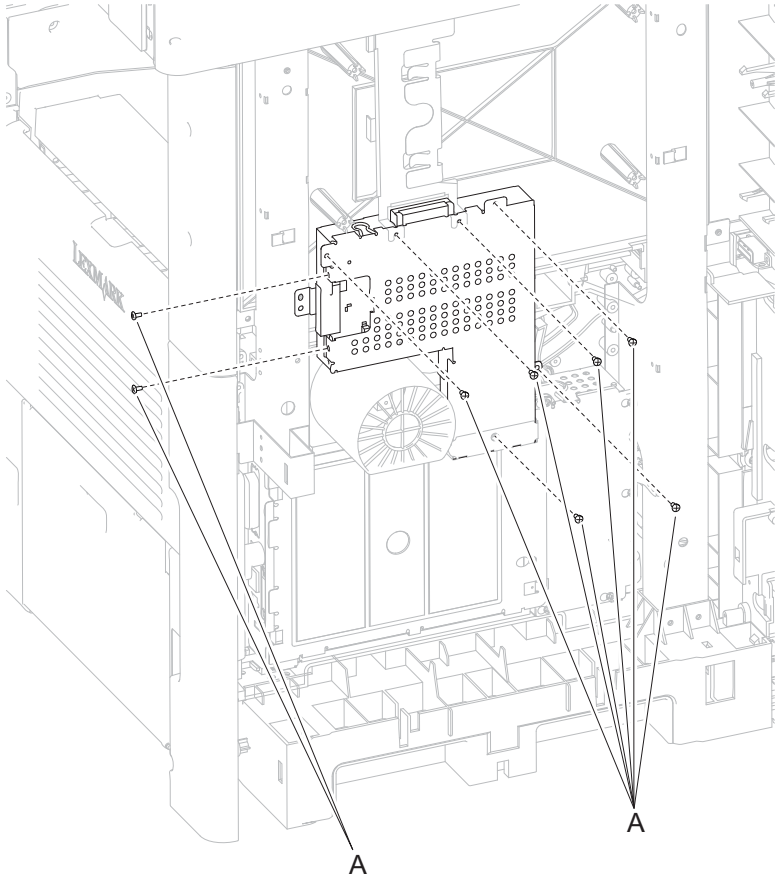
6. Remove the seven screws (B) securing the card to the cage.



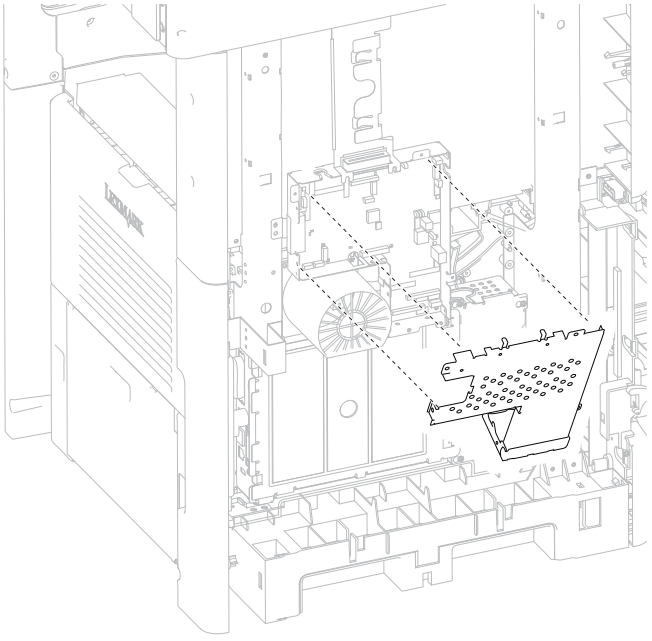
7. Remove the scanner controller card.

Scanner controller card assembly removal (models X651, X652/5535dn, X654, and X656)

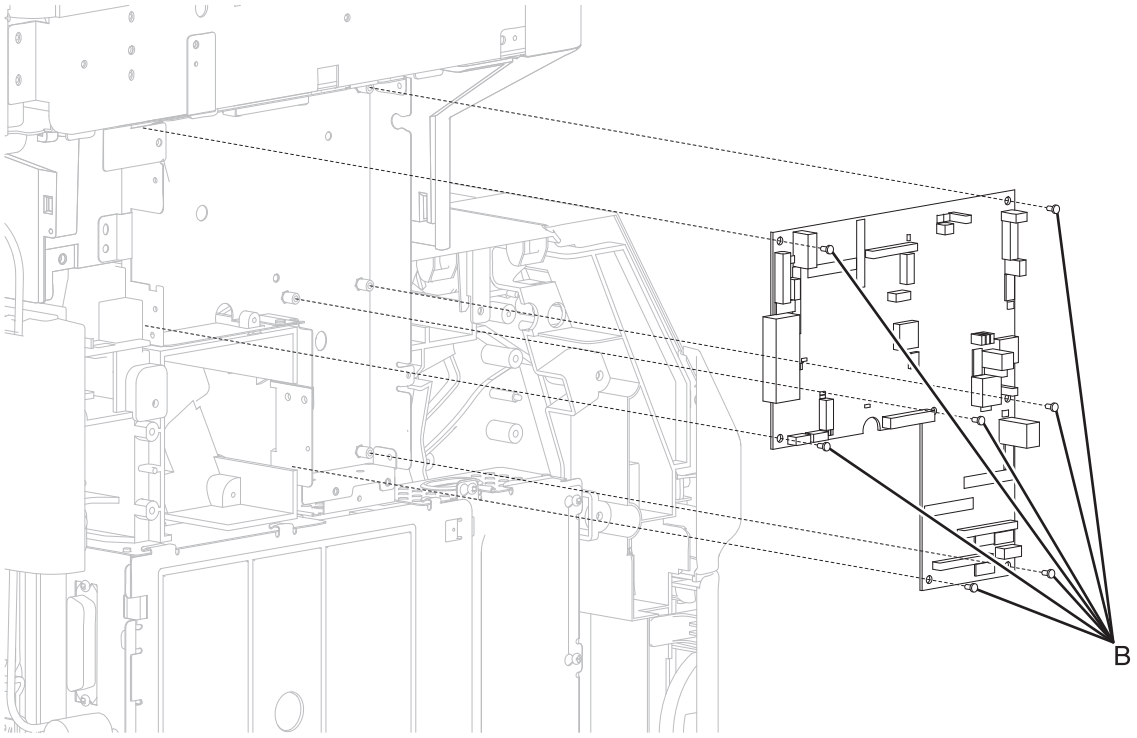
1. Remove the side cover, left. See **"Side cover, left removal (models X651, X652/5535dn, X654, and X656)" on page 4-123**.
2. Remove eight screws (A) securing the scanner controller cage cover to the cage.



3. Remove the scanner controller card cage cover.



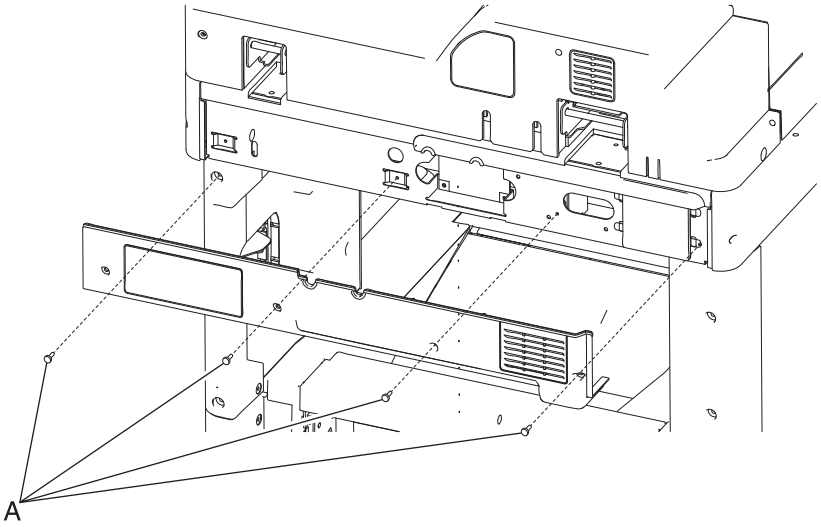
4. Disconnect all the harnesses and ribbon cables.
5. Remove the seven screws (B) securing the card to the cage.



6. Remove the scanner controller card.

Scanner cover, rear removal

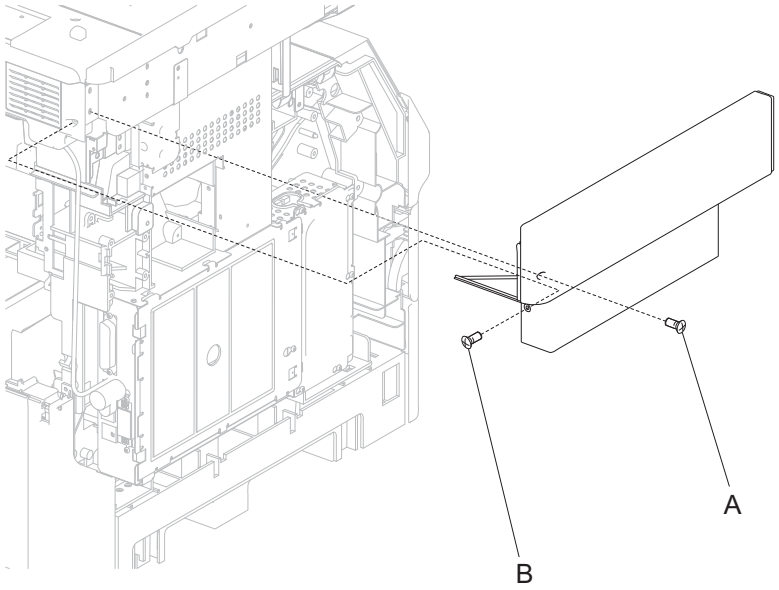
1. Remove the four screws (A) securing the scanner cover, rear to the scanner.



2. Pull out from the bottom, and remove the scanner cover, rear.

Scanner cover, left removal (models X651, X652/5535dn, X654, and X656)

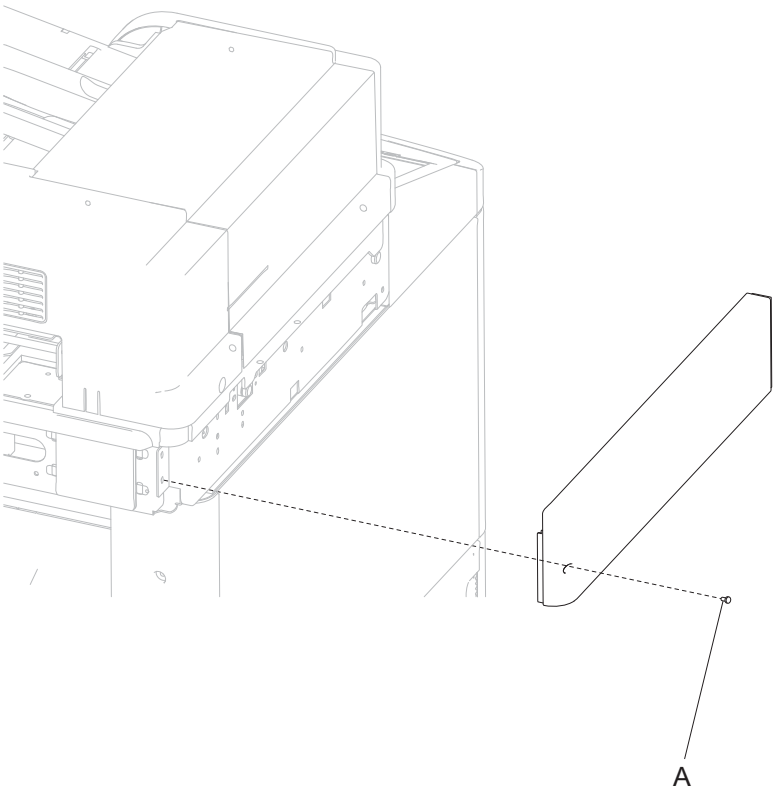
1. Remove the scanner cover, rear. See **“Scanner cover, rear removal” on page 4-133**.
2. Remove the metal screw (A) and plastic screw (B) securing the scanner cover, left to the scanner assembly.



3. Slide the scanner cover, left to the rear, and remove.

Scanner cover, left removal (model X658)

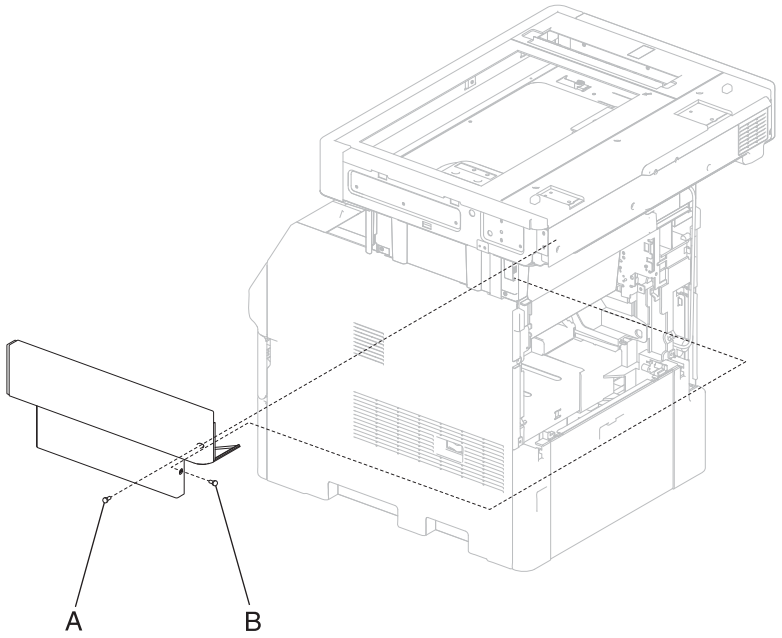
1. Remove the scanner cover, rear. See **“Scanner cover, rear removal” on page 4-133**.
2. Remove the metal screw (A) securing the scanner cover, left to the scanner assembly.



3. Slide the scanner cover, left to the rear, and remove.

Scanner cover, right removal (models X651, X652/5535dn, X654, and X656)

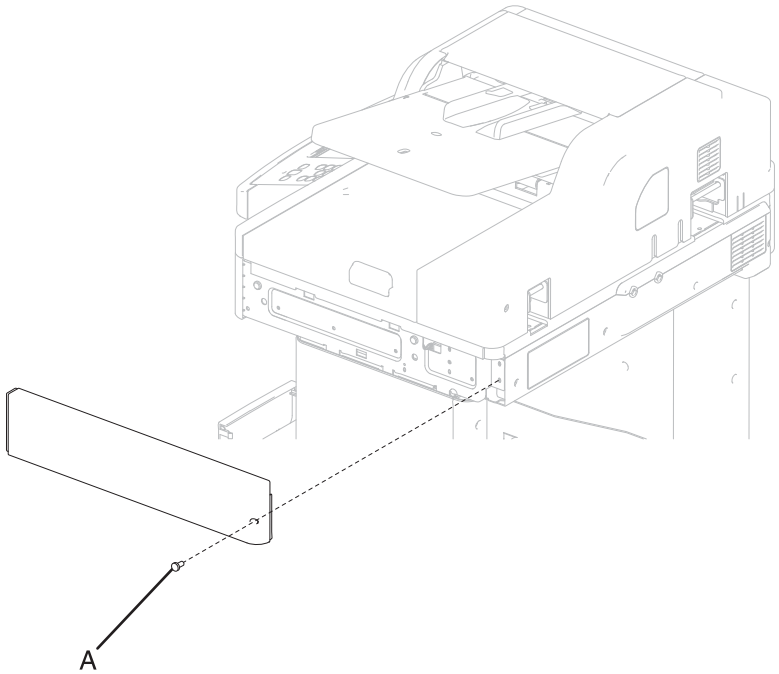
1. Remove the scanner cover, rear. See **"Scanner cover, rear removal" on page 4-133**.
2. Remove the plastic screw (A) and metal screw (B) securing the scanner cover, right to the scanner.



3. Side the scanner cover, right to the rear, and remove.

Scanner cover, right removal (model X658)

1. Remove the scanner cover, rear. See **"Scanner cover, right removal (model X658)" on page 4-136**.
2. Remove the screw (A) securing the scanner cover, right to the machine.

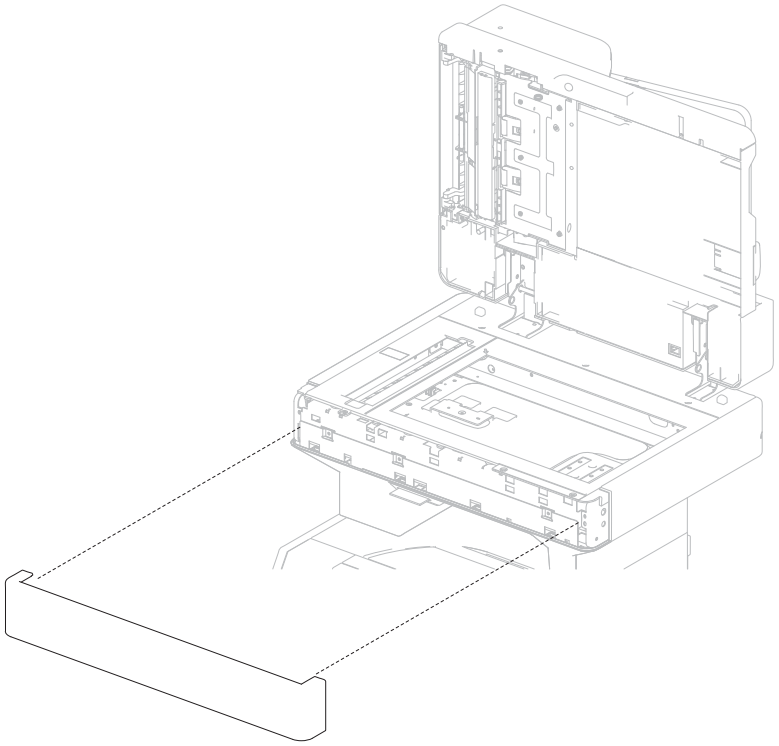


3. Slide the scanner cover, right to the rear, and remove.

Replacement note: Always replace the scanner cover, front before replacing the scanner cover, right.

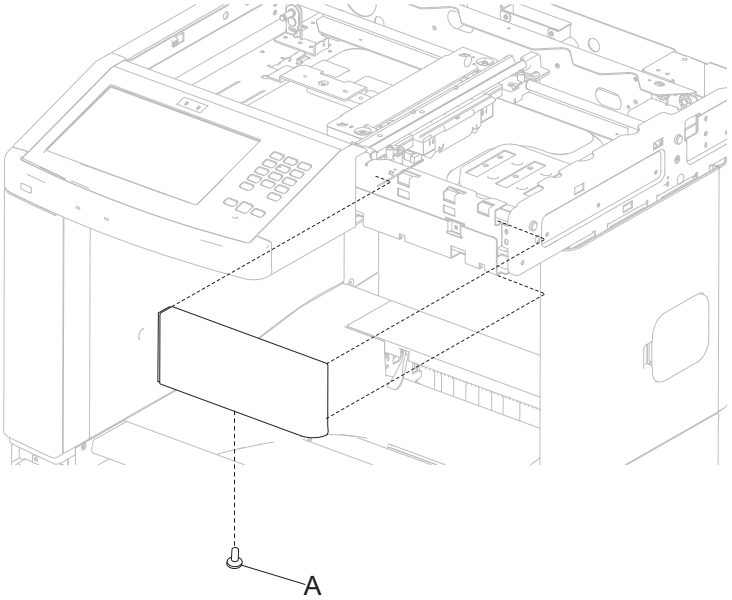
Scanner cover, front removal (models X651, X652/5535dn, X654, and X656)

1. Open the ADF cover.
2. Firmly grasp one side of the scanner cover, front.
3. Pull and remove the scanner cover, front.



Scanner cover, front removal (model X658)

1. Remove the scanner cover, right. See **"Scanner cover, right removal (model X658)" on page 4-136**.
2. Remove screw (A)



3. Slide the scanner cover, front to the right, and remove.

Replacement note: Always replace the scanner cover, front before replacing the scanner cover, right.

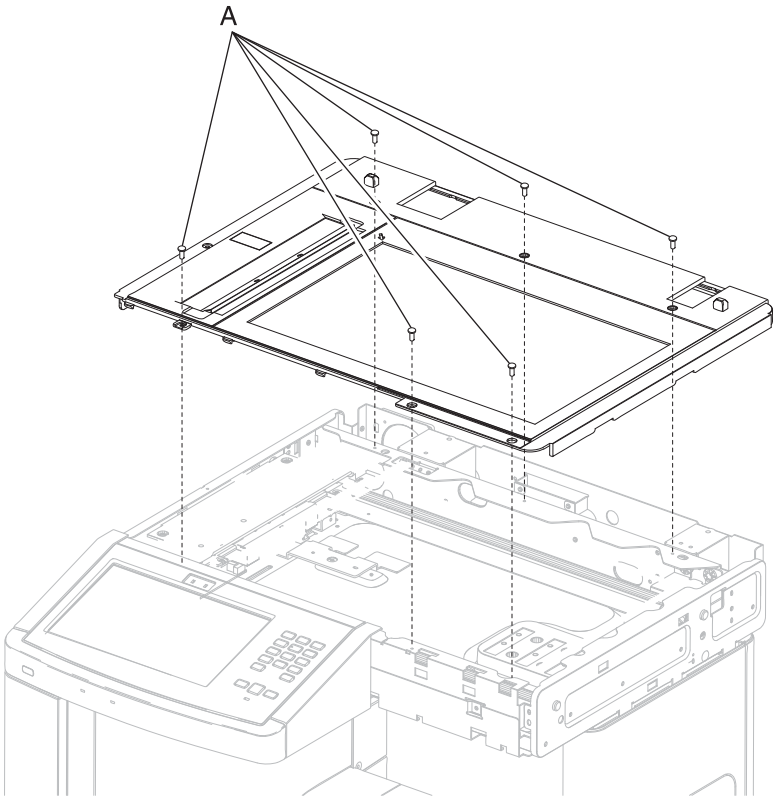
Scanner platen glass cover assembly removal (model X658)

1. Remove the ADF unit assembly. See **"ADF unit assembly removal (model X658)" on page 4-85**.
2. Remove the scanner cover, left. See **"Scanner cover, left removal (model X658)" on page 4-135**.
3. Remove the scanner cover, right. See **"Scanner cover, right removal (model X658)" on page 4-136.**
4. Remove the scanner cover, front. See **"Scanner cover, front removal (model X658)" on page 4-137**.

Note: Remove the operator panel screw cover strip to access the 6th screw securing the platen glass cover assembly.

Note: It is not necessary to remove the operator panel for platen glass removal.

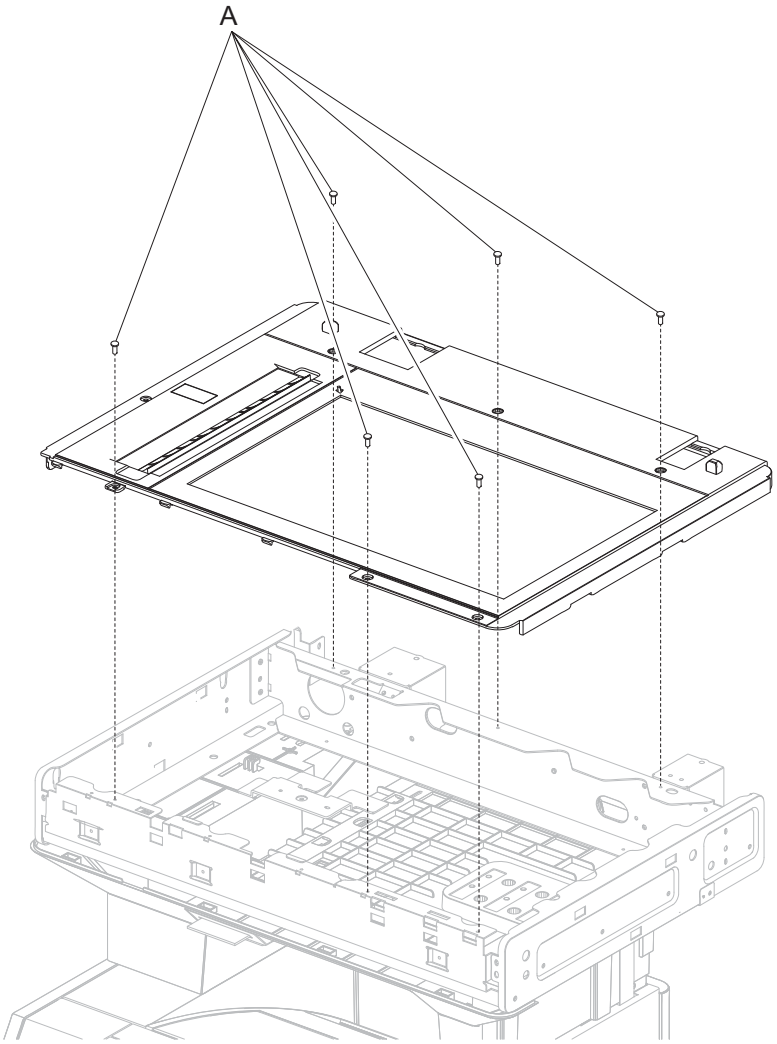
5. Remove six screws (A) securing the scanner platen glass cover to the assembly.



6. Lift and remove the scanner platen glass cover assembly.

Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)

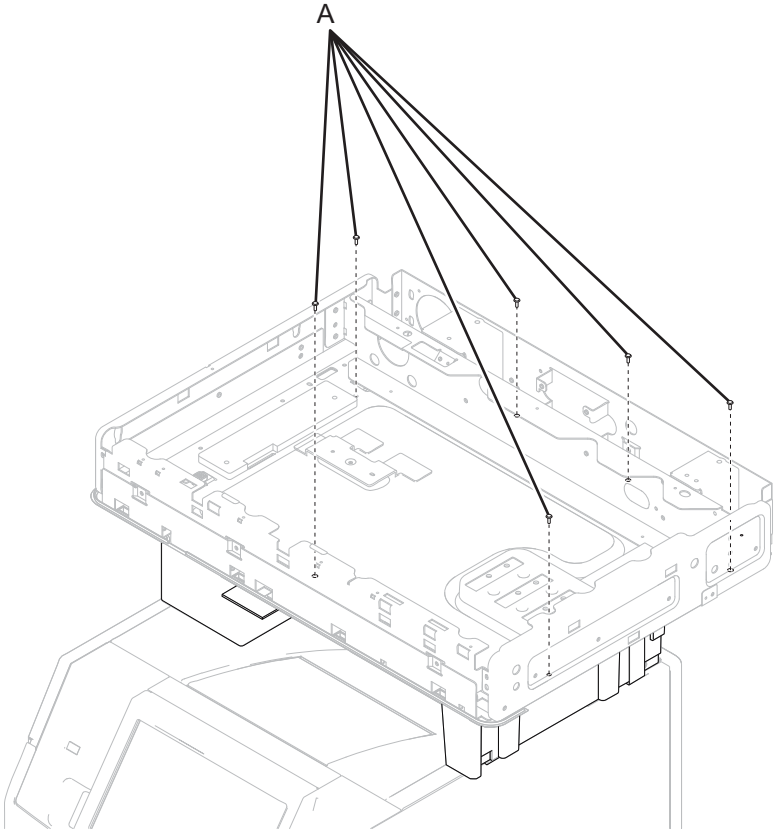
1. Remove the ADF unit assembly. See **"ADF unit assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-85**.
2. Remove the scanner cover, front. See **"Scanner cover, front removal (models X651, X652/5535dn, X654, and X656)" on page 4-137**.
3. Remove the scanner cover, right. See **"Scanner cover, right removal (models X651, X652/5535dn, X654, and X656)" on page 4-136**.
4. Remove six screws (A) securing the scanner platen glass cover to the assembly.



5. Lift and remove the scanner platen glass cover assembly.

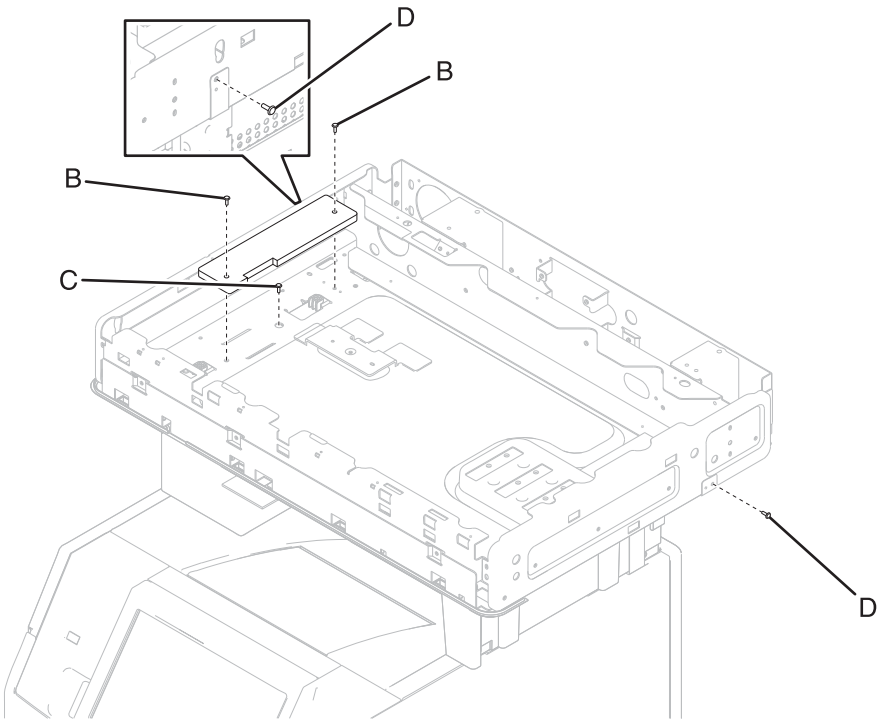
Scanner support platform removal (models X651, X652/5535dn, X654, and X656)

1. Remove the scanner platen glass cover assembly. See **“Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)” on page 4-140**.
2. Remove six screws (A) securing the scanner support platform to the scanner flatbed frame.



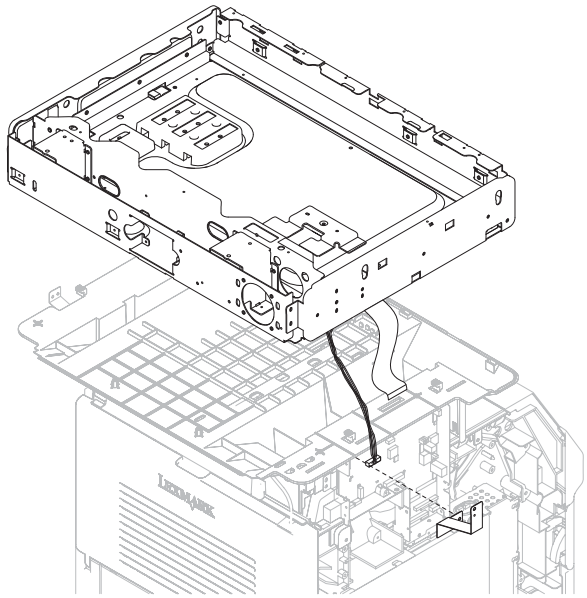
3. Remove two screws (B) securing the plastic cover to the scanner flatbed frame.
4. Remove the last screw (C) under the plastic cover securing the scanner support platform to the scanner.
5. Remove the torroid from the ribbon cable.

6. Remove the two screws (D) securing the ground straps to the either side of the scanner frame.



Note: Remove the ground strap to prevent damage to the surface which the scanner is placed on.

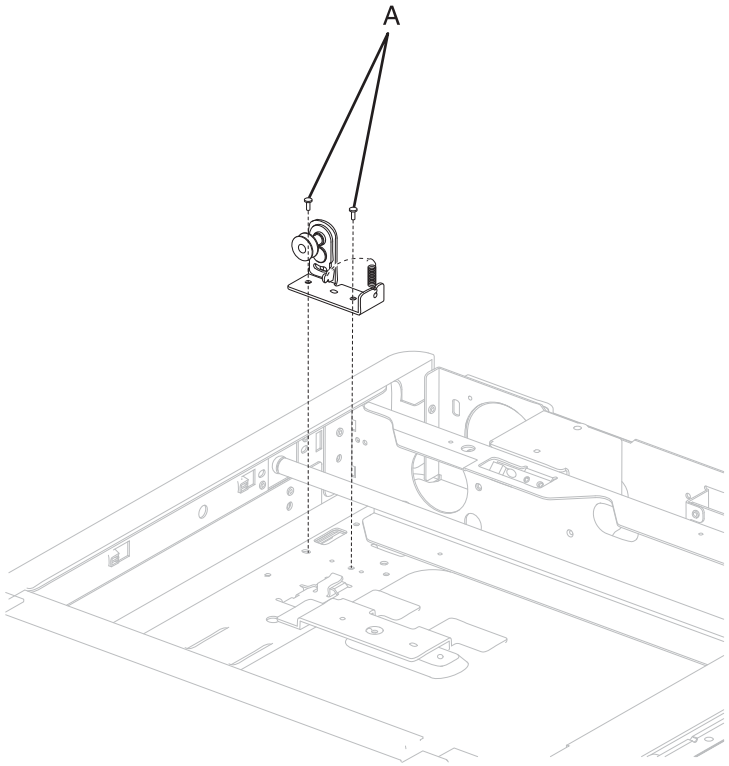
7. Push the flatbed toward the rear of the cover.
8. Lift and remove the scanner support platform.



9. If the scanner support platform needs to be removed from the printer, remove the four mounting screws as outlined in the “scanner unit assembly removal”. See **“Scanner unit assembly removal (models X651, X652/5535dn, X654, and X656)” on page 4-94**.

Carriage belt tensioner assembly removal

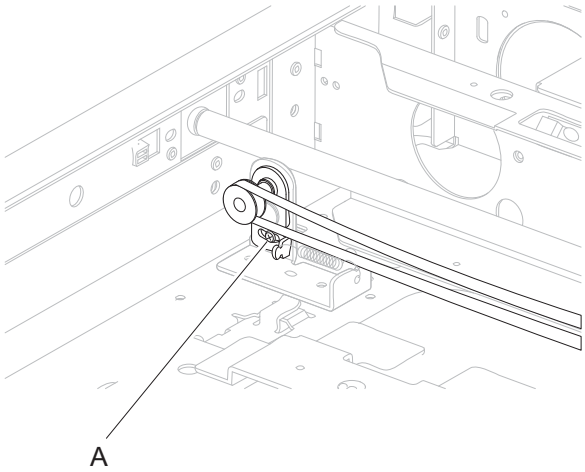
1. Remove the scanner platen glass cover assembly. See **"Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-140** or **"Scanner platen glass cover assembly removal (model X658)" on page 4-139**.
2. Remove the tensioner spring from the carriage belt tensioner. and remove the carriage belt from the tensioner pulley.
3. Remove the two screws (A) securing the carriage belt tensioner assembly to the flatbed scanner frame.



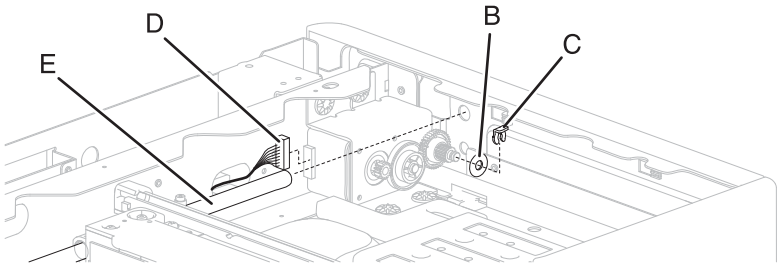
4. Remove the carriage belt tensioner assembly.

Carriage drive motor assembly with cable removal

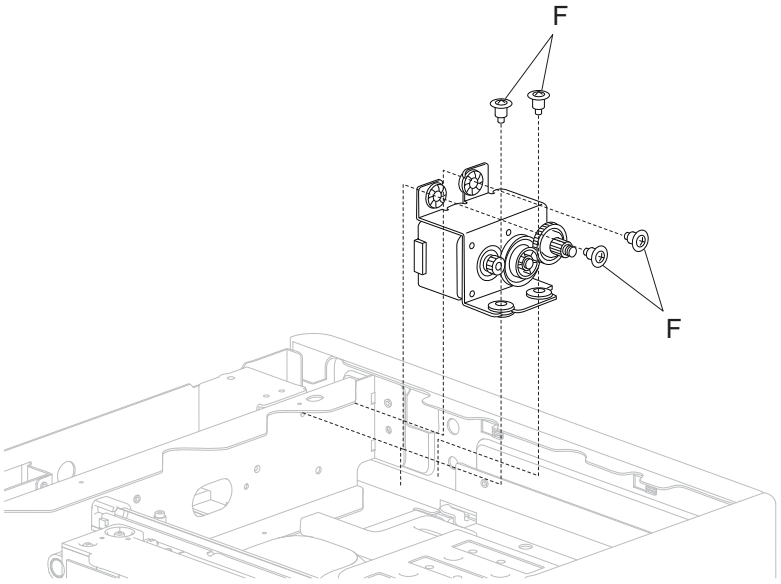
1. Remove the scanner platen glass cover assembly. See **"Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-140** or **"Scanner platen glass cover assembly removal (model X658)" on page 4-139**.
2. Loosen the screw (A) on the carriage belt tensioner.



3. Pull slack in the carriage belt and retighten screw (A).
4. Remove the clip (B) on the carriage output shaft.
5. Remove the retaining washer (C) and belt from the motor output shaft.
6. Remove the carriage drive motor harness (D).
7. Remove the rear CCD scanner shaft (E) from the flatbed frame by lifting the left end of the shaft up, and remove through the left side.



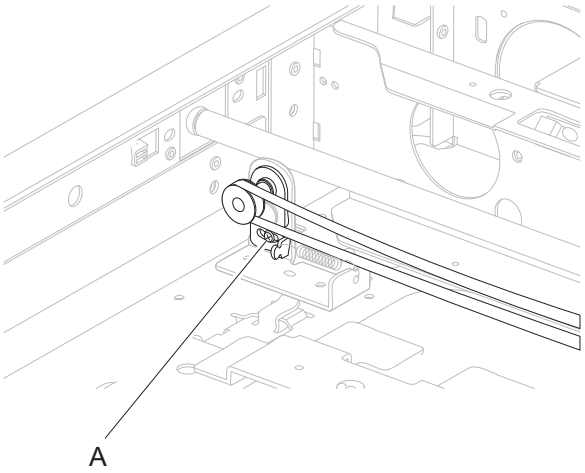
8. Remove the four screws (F) securing the carriage drive motor assembly with cable to the flatbed frame.



9. Remove the carriage drive motor assembly with cable.

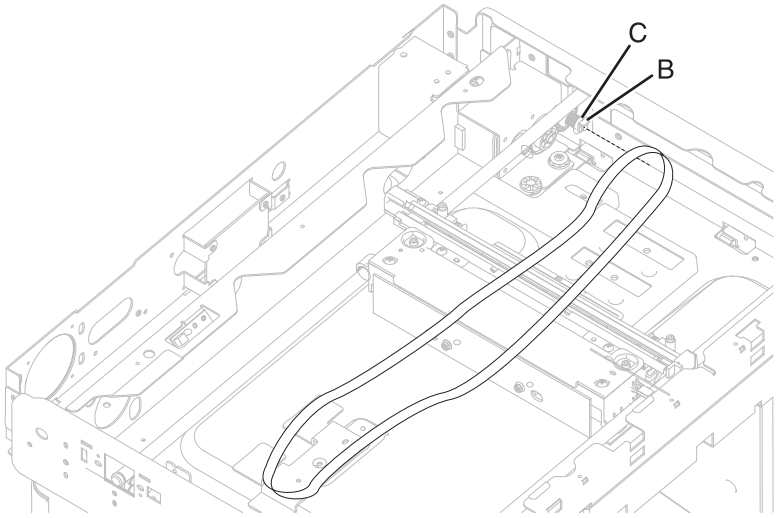
Carriage belt removal

1. Remove the scanner platen glass cover assembly. See **"Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-140** or **"Scanner platen glass cover assembly removal (model X658)" on page 4-139**.
2. Loosen the screw (A) on the carriage belt tensioner.



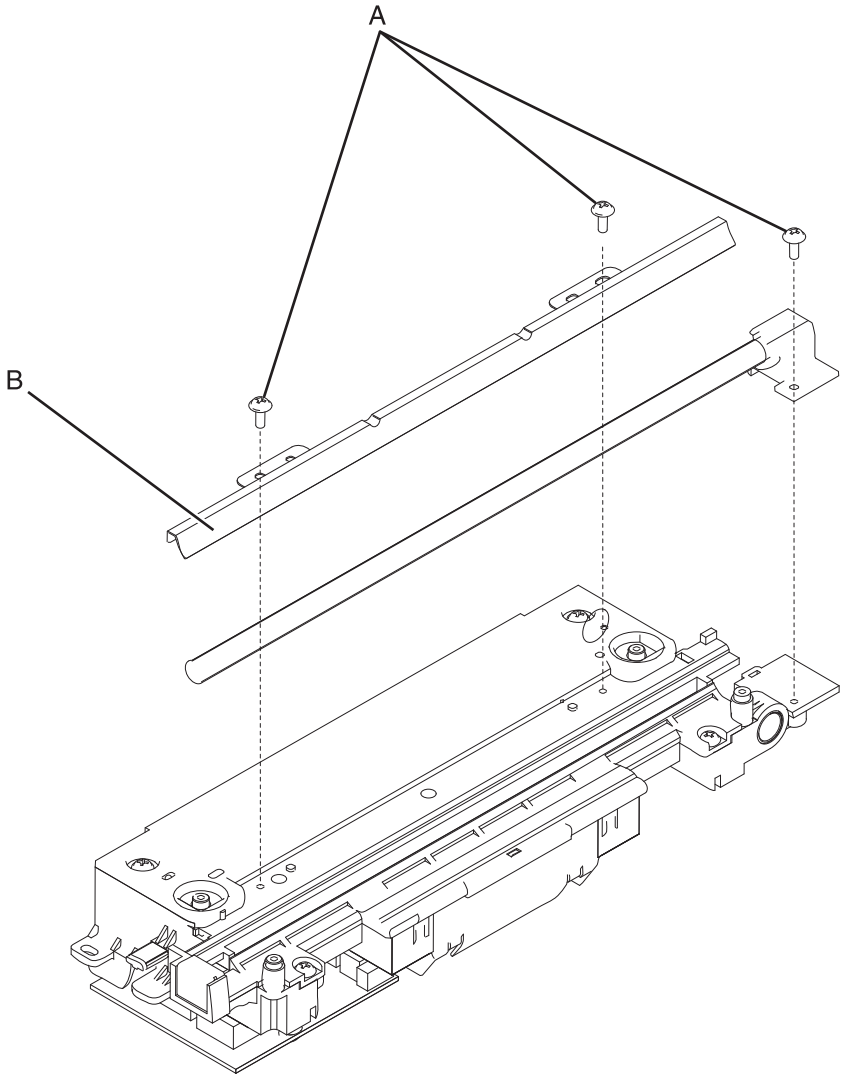
3. Pull slack in the carriage belt, and retighten screw (A).
4. Remove the clip (B) and retaining washer (C) from carriage drive motor assembly with cable.
5. Remove the carriage belt from the carriage belt tension assembly and the drive motor assembly.

6. Slide the carriage belt out of the rear side of the CCD carriage assembly.



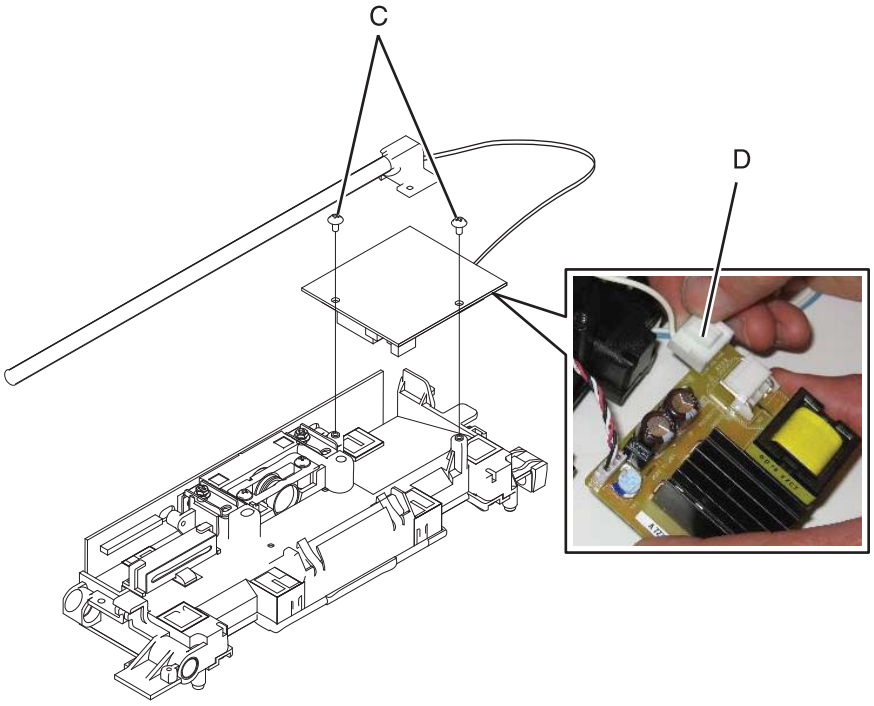
Scanner / ADF duplex CCD exposure lamp removal

1. Remove the scanner CCD assembly or the ADF duplex CCD assembly. See **"Scanner CCD assembly removal" on page 4-91** or **"ADF duplex CCD assembly removal (X654, X656, and X658)" on page 4-70**.
2. Remove the three screws (A) securing the scanner exposure lamp and wire harness.
3. Remove the lamp reflector (B) from the CCD assembly.



4. Remove the two screws (C) securing the exposure lamp card from the underside of the CCD assembly, and lift the card from the CCD assembly.
5. Disconnect the scanner lamp wiring harness from the exposure lamp card.

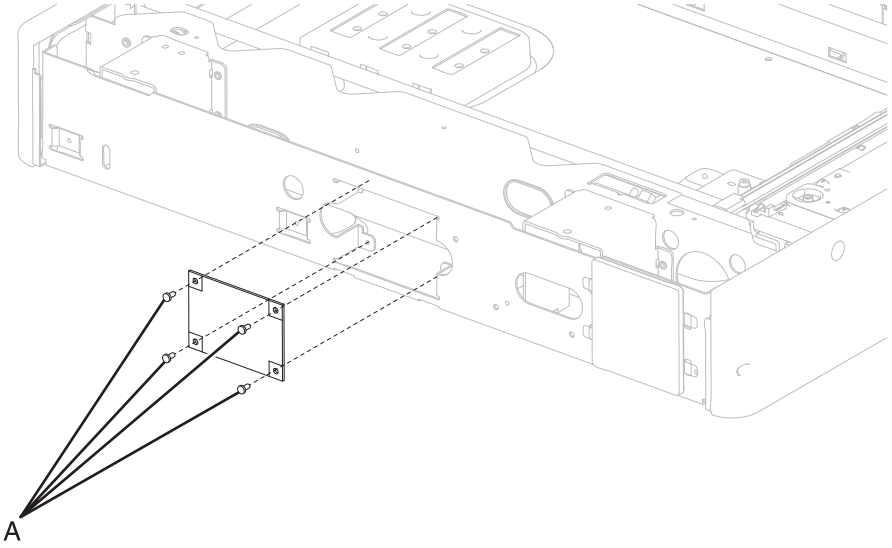
6. Remove the scanner exposure lamp wiring harness from the clips (D) on the CCD assembly.



7. Remove the scanner exposure lamp by lifting up on the rear end and pulling the lamp out of the grommet.

Scanner interface card assembly removal

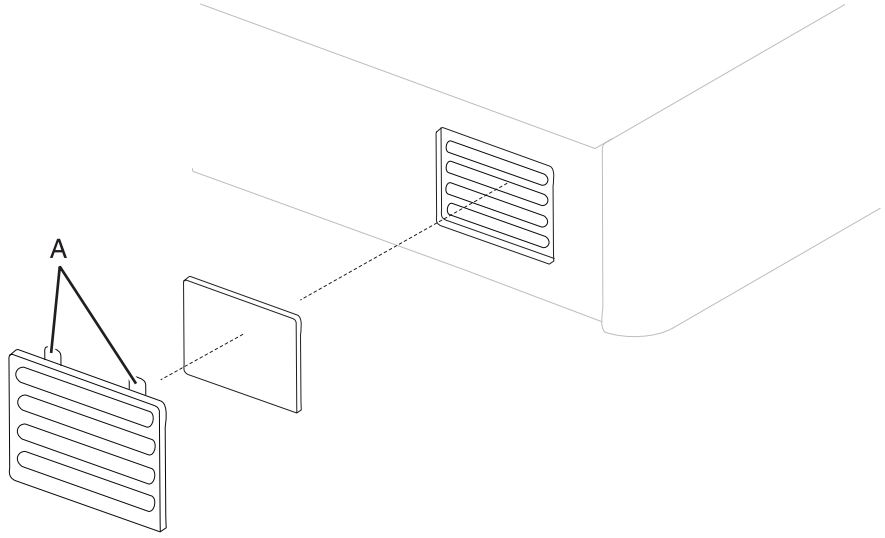
1. Remove the scanner cover, rear. See **"Scanner cover, rear removal" on page 4-133**.
2. Remove the wire harnesses from the scanner interface card.
3. Remove the four screws (A) securing the scanner interface card to the flatbed frame.



4. Remove the scanner controller card.

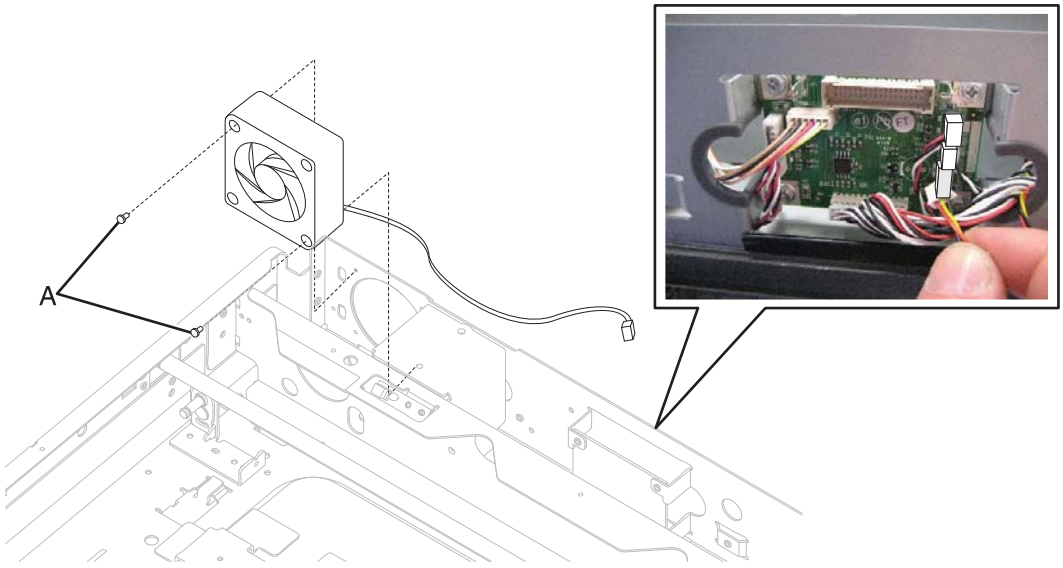
Scanner cooling fan filter removal

1. Pry the tabs (A) securing the scanner cooling fan filter cover to the flatbed frame.



Scanner cooling fan removal

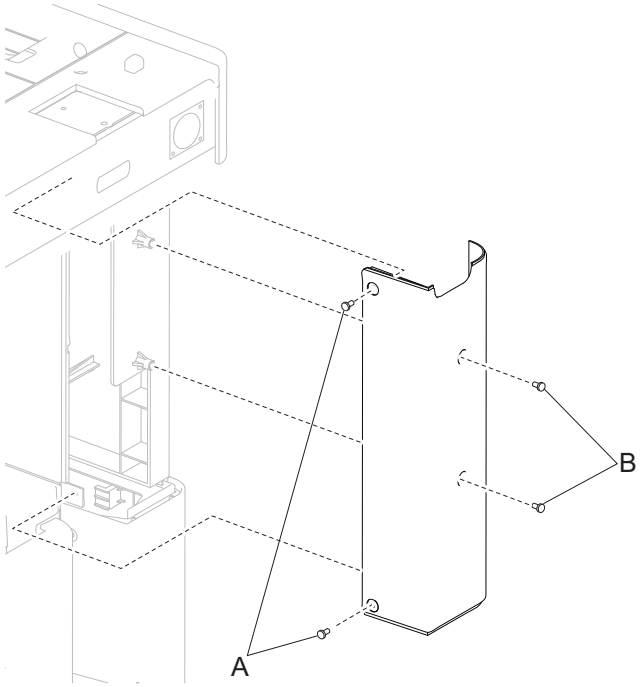
1. Remove the scanner platen glass cover assembly. See **"Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-140** or **"Scanner platen glass cover assembly removal (model X658)" on page 4-139**.
2. Disconnect the cooling fan wiring harness from the scanner interface card connector (CN5) assembly.
3. Remove the two screws (A) securing the scanner cooling fan to the flatbed frame.



4. Remove the scanner cooling fan while carefully routing the cable out from the flatbed frame assembly.

Scanner support cover, left rear removal (model X658)

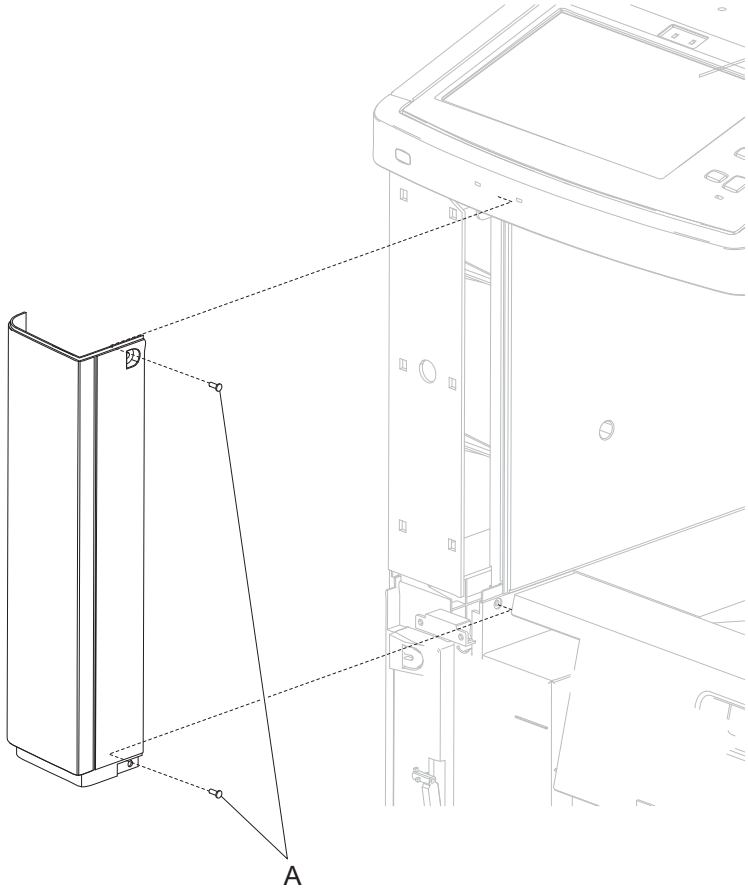
1. Remove the scanner cover, rear. See **“Scanner cover, rear removal” on page 4-133**.
2. Remove the two inner screws (A) and two screws (B) on the rear face securing the scanner support cover, left rear to the machine.



3. Remove the scanner support cover, left rear.

Scanner support cover, left front removal (model X658)

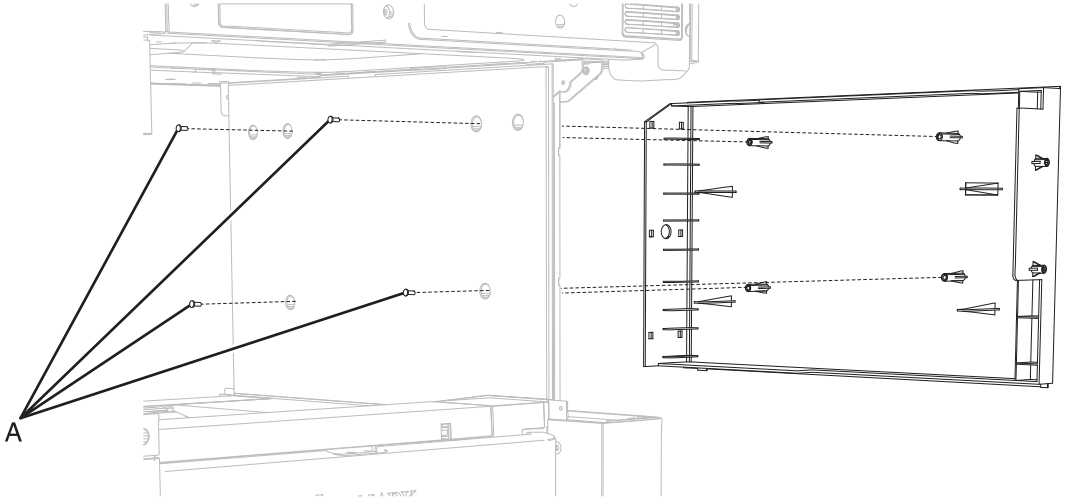
1. Open the front door assembly.
2. Remove the two screws (A) on the scanner support cover, left front to the machine.



3. Remove the scanner support cover, left front.

Scanner support cover, left removal (model X658)

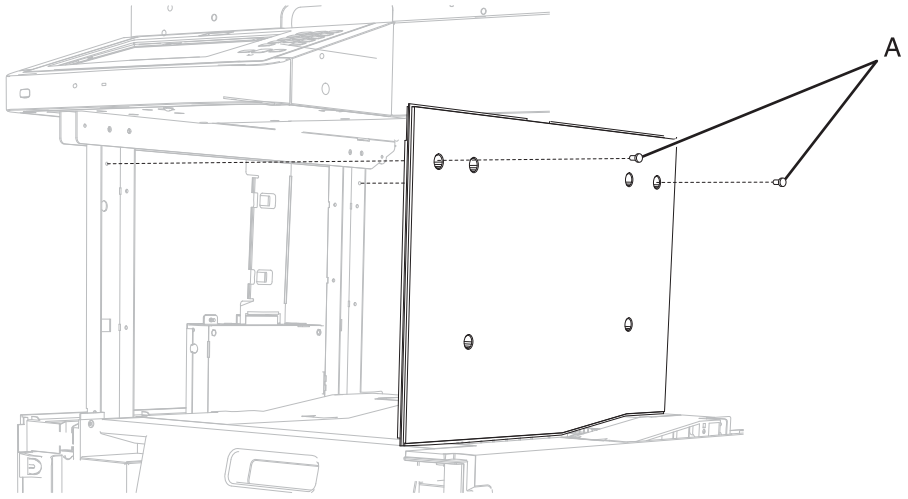
1. Remove the scanner support cover, left rear. See **"Scanner support cover, left rear removal (model X658)" on page 4-150**.
2. Remove the scanner support cover, left front. See **"Scanner support cover, left front removal (model X658)" on page 4-151**.
3. Remove the four screws (A) from the inside panel.



4. Remove the scanner support cover, left.

Scanner support inner cover, left removal (model X658)

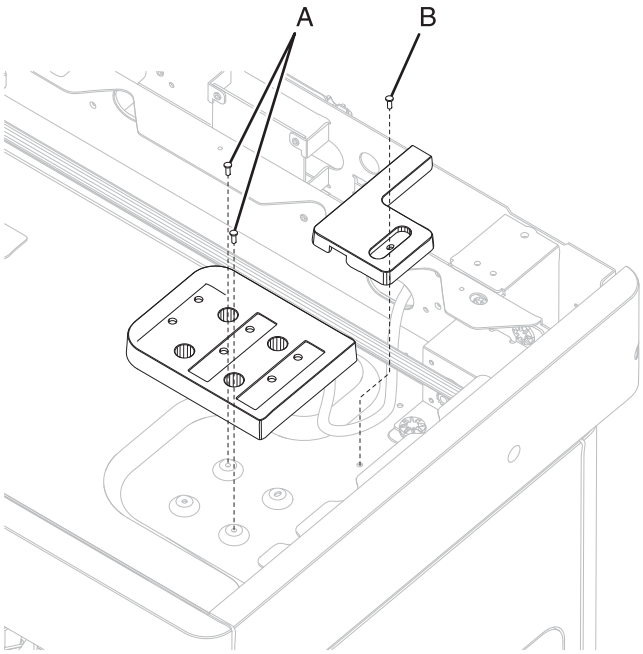
1. Remove the scanner support cover, left rear. See **"Scanner support cover, left rear removal (model X658)" on page 4-150**.
2. Remove the scanner support cover, left front. See **"Scanner support cover, left front removal (model X658)" on page 4-151**.
3. Remove the scanner support cover, left. See **"Scanner support cover, left removal (model X658)" on page 4-152**.
4. Remove the two screws (A) securing the scanner support inner cover, left.



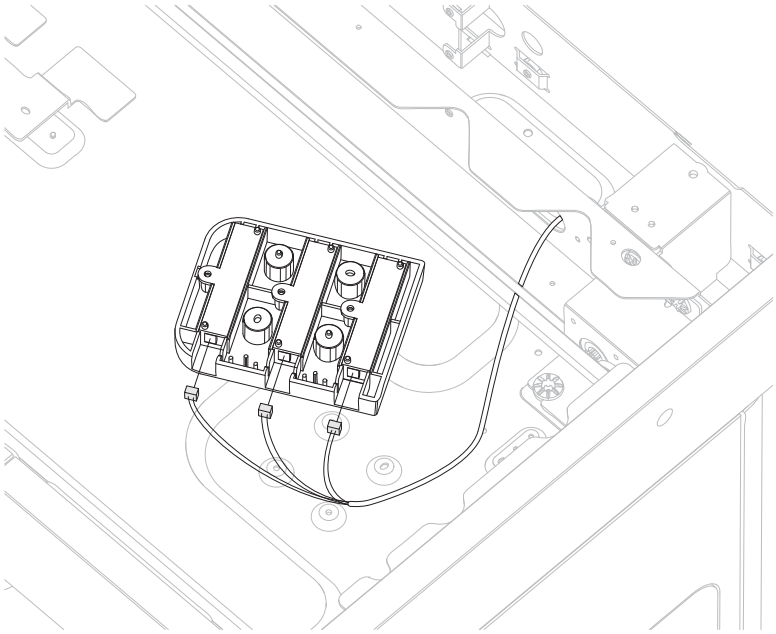
5. Slide the scanner support inner cover, left to the front, and remove.

Sensor (platen glass length) assembly removal

1. Remove the scanner platen glass cover assembly. See **"Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-140** or **"Scanner platen glass cover assembly removal (model X658)" on page 4-139**.
2. Remove the two screws (A) securing the sensor (platen glass length) assembly to the scanner flatbed frame.
3. Remove the screw (B) securing the sensor (platen glass length) cable cover.



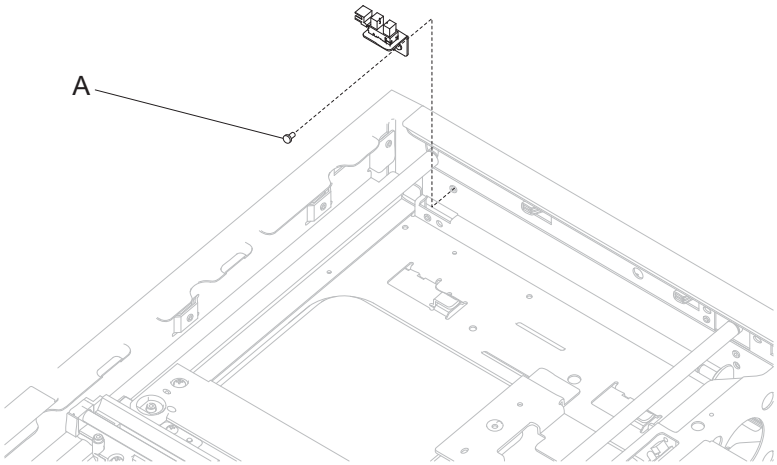
4. Rotate the sensor (platen glass length) assembly upside down, and remove the harnesses from each individual sensor.



5. Remove the sensor (platen glass length) assembly.

Sensor (scanner HP) assembly w/bracket removal

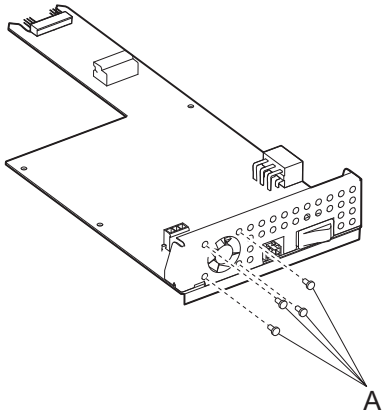
1. Remove the scanner platen glass cover assembly. See **"Scanner platen glass cover assembly removal (models X651, X652/5535dn, X654, and X656)" on page 4-140** or **"Scanner platen glass cover assembly removal (model X658)" on page 4-139**.
2. Remove screw (A) securing the HP sensor bracket to the flatbed frame.



3. Pull the bracket from the frame, and remove the sensor wire harness.
4. Remove the sensor (scanner HP) assembly with bracket.

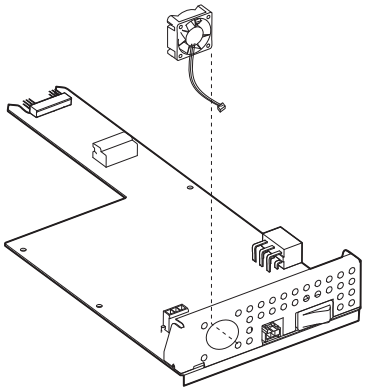
LVPS cooling fan

1. Remove the LVPS card assembly. See **"LVPS card assembly removal" on page 4-47**.
2. Remove the four screws (A) securing the LVPS cooling fan.



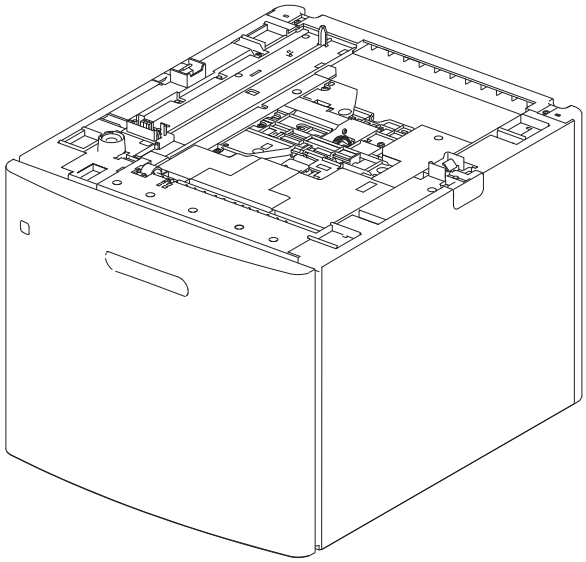
3. Disconnect the connection from the LVPS cooling fan.

4. Remove the LVPS cooling fan.



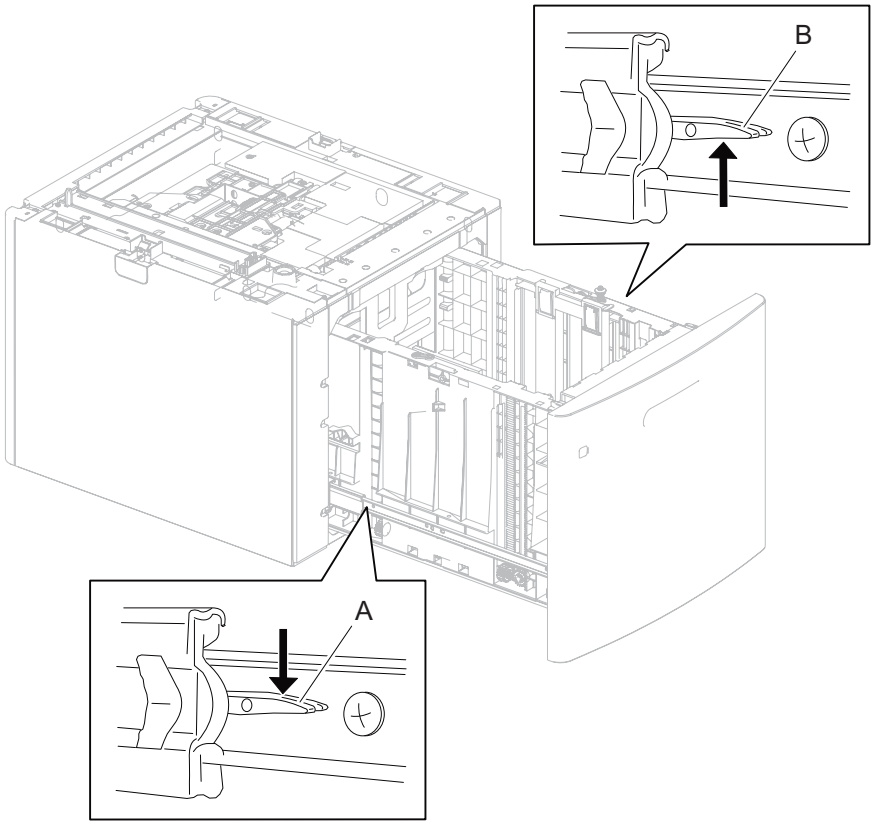
Option removals

High capacity input tray



High capacity input tray (HCIT) media tray assembly removal

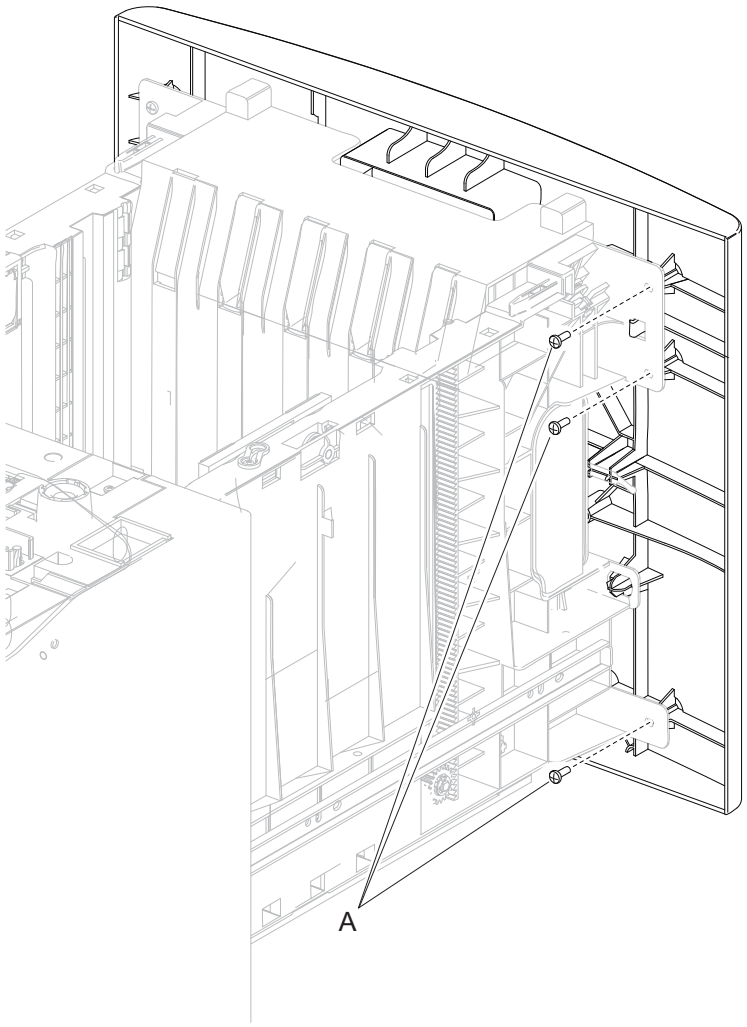
1. Open the HCIT media tray assembly until it reaches a stop.
2. Press the latch (A) down on the left side of the HCIT tray slide, and press the latch (B) up on the right side of the HCIT tray slide.

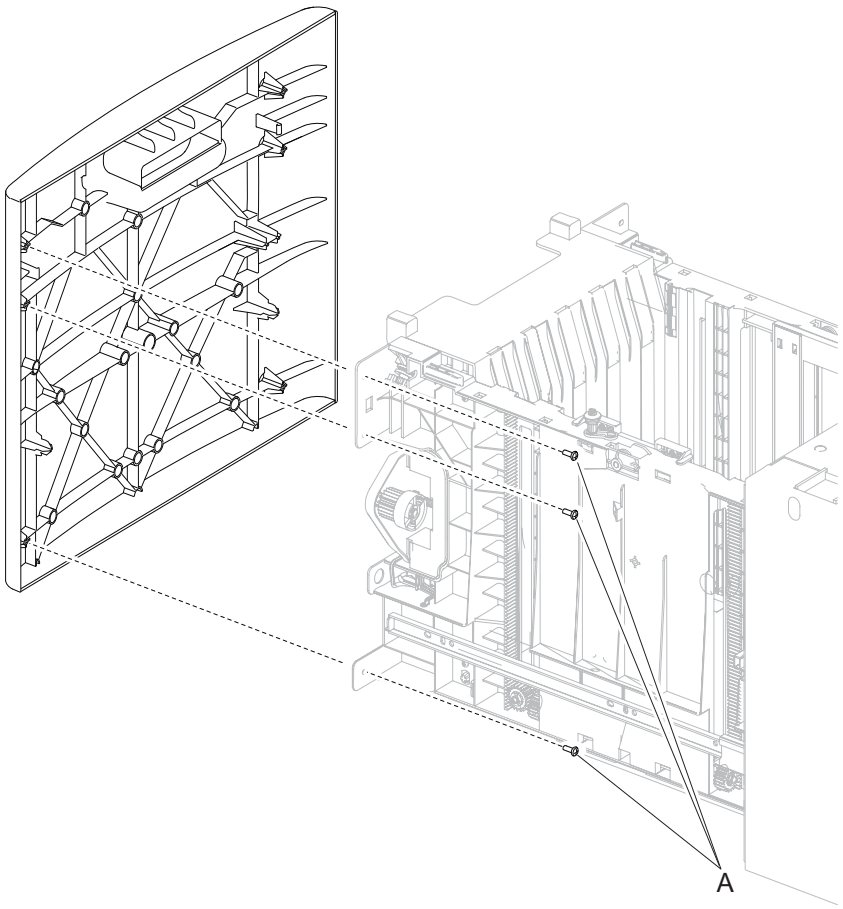


3. Slide the HCIT media tray assembly out of the drawer.

High capacity input tray (HCIT) tray cover, front removal

1. Open the HCIT media tray assembly until it reaches a stop.
2. Remove the six screws (A) securing the HCIT tray cover, front to the HCIT media tray assembly.



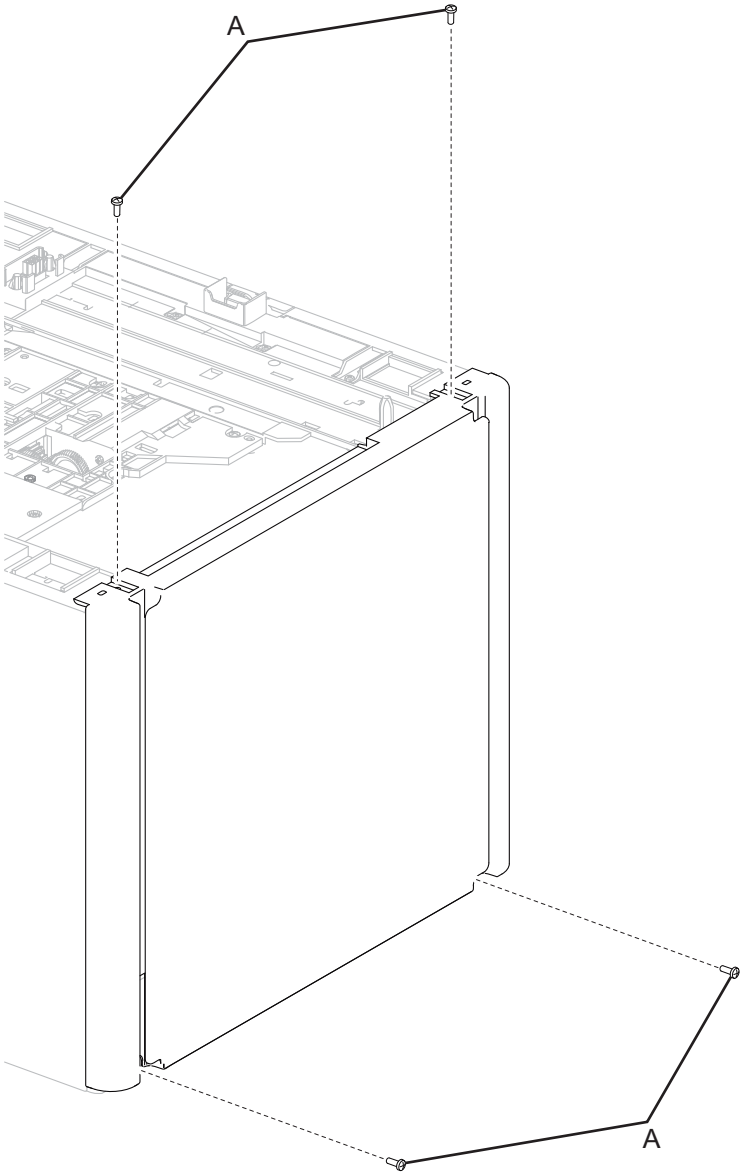


3. Remove the HCIT tray cover, front.

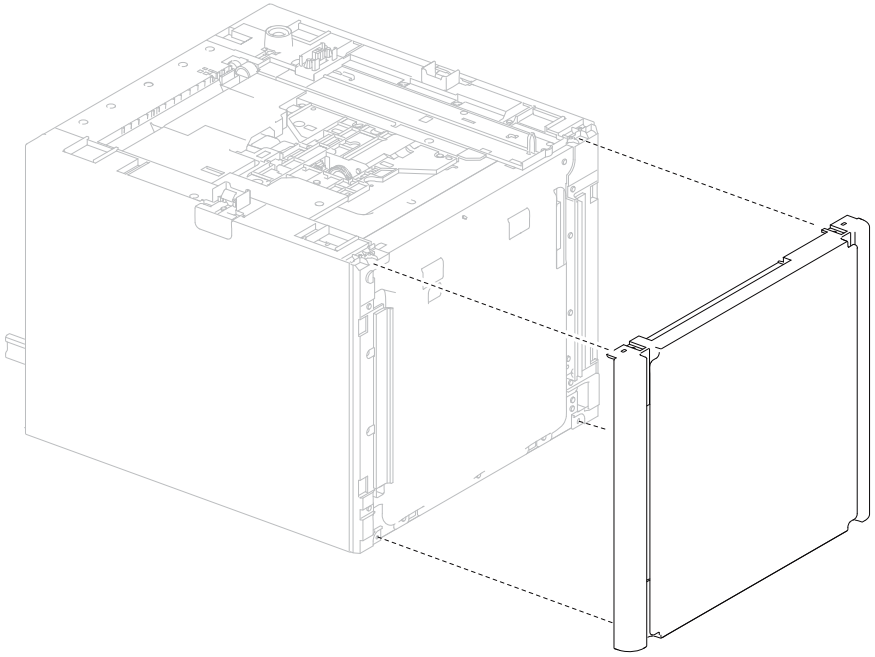
High capacity input tray (HCIT) cover, rear removal

Note: Carefully remove the base machine from the HCIT tray assembly before proceeding.

1. Remove the four screws (A) securing the HCIT cover, rear to the drawer.



2. Remove the HCIT cover, rear.

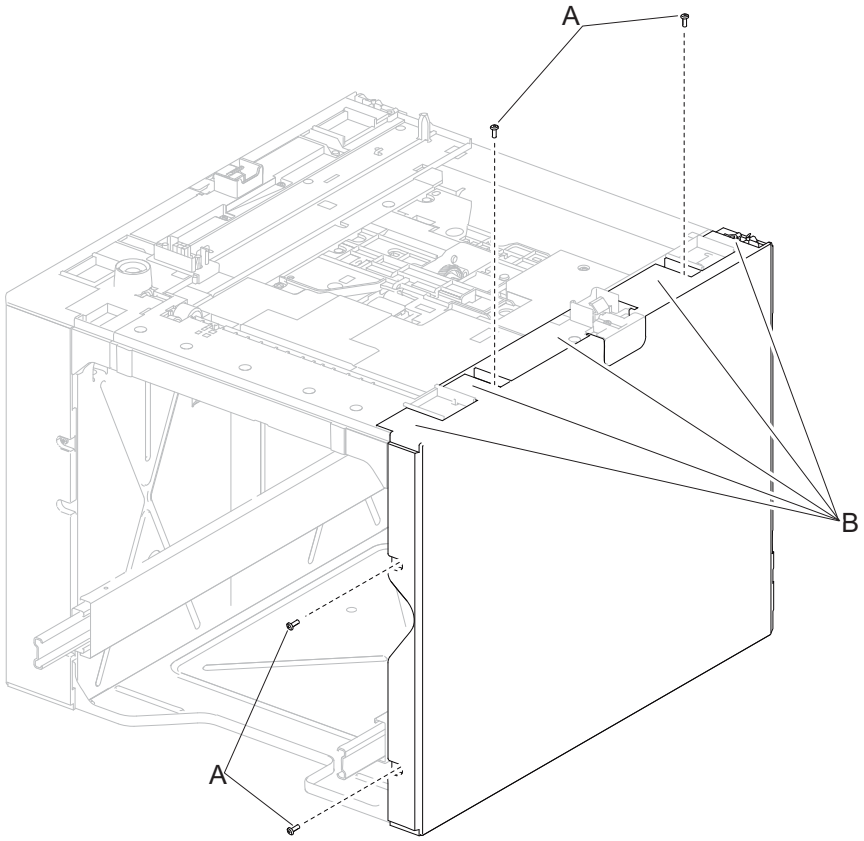


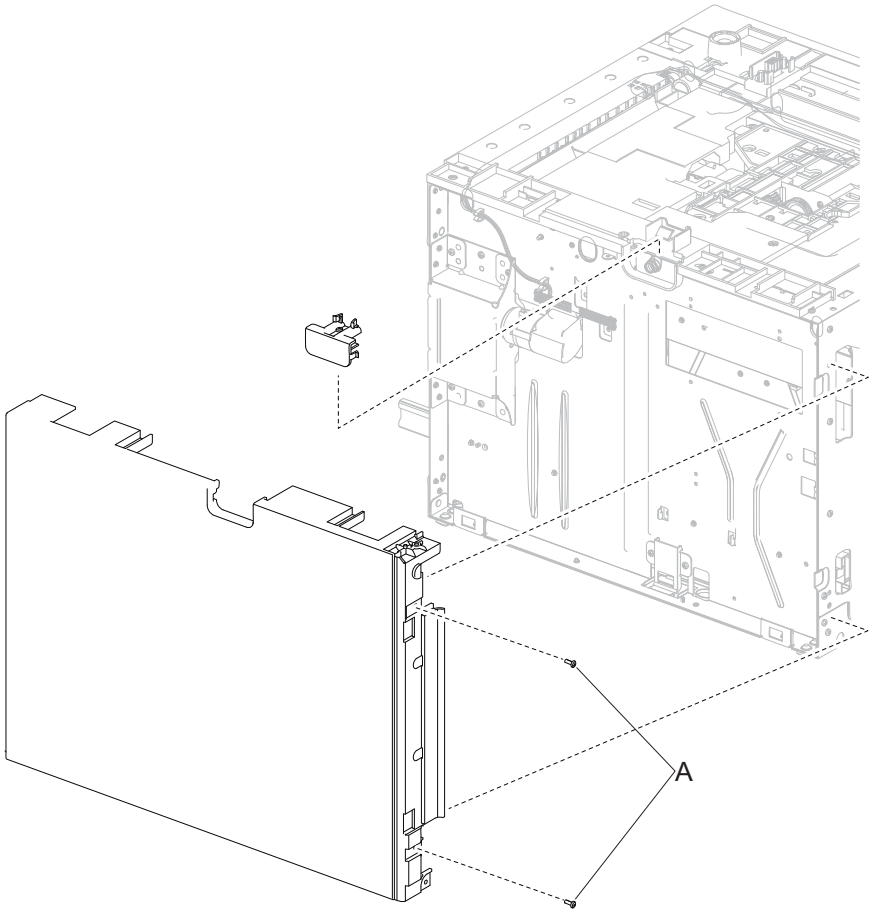
High capacity input tray (HCIT) cover, right removal

Note: Carefully remove the base machine from the HCIT tray assembly before proceeding.

Note: Before removing the HCIT right cover, first remove the right side anti-tip latch assembly. See **"High capacity input tray (HCIT) anti-tip latch assembly removal" on page 4-165**.

1. Remove the High capacity input tray (HCIT) cover, rear. See **"High capacity input tray (HCIT) cover, rear removal" on page 4-160**.
2. Remove the six screws (A) securing the HCIT cover, right to the drawer.
3. Use a screwdriver to gently pry up on the tabs (B).





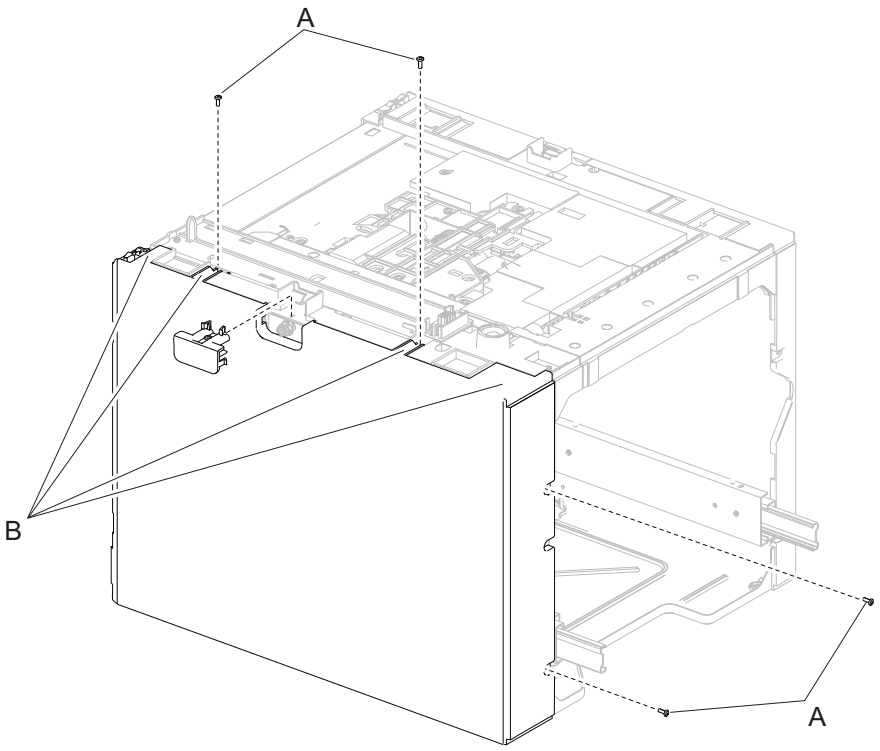
4. Remove the HCIT cover, right.

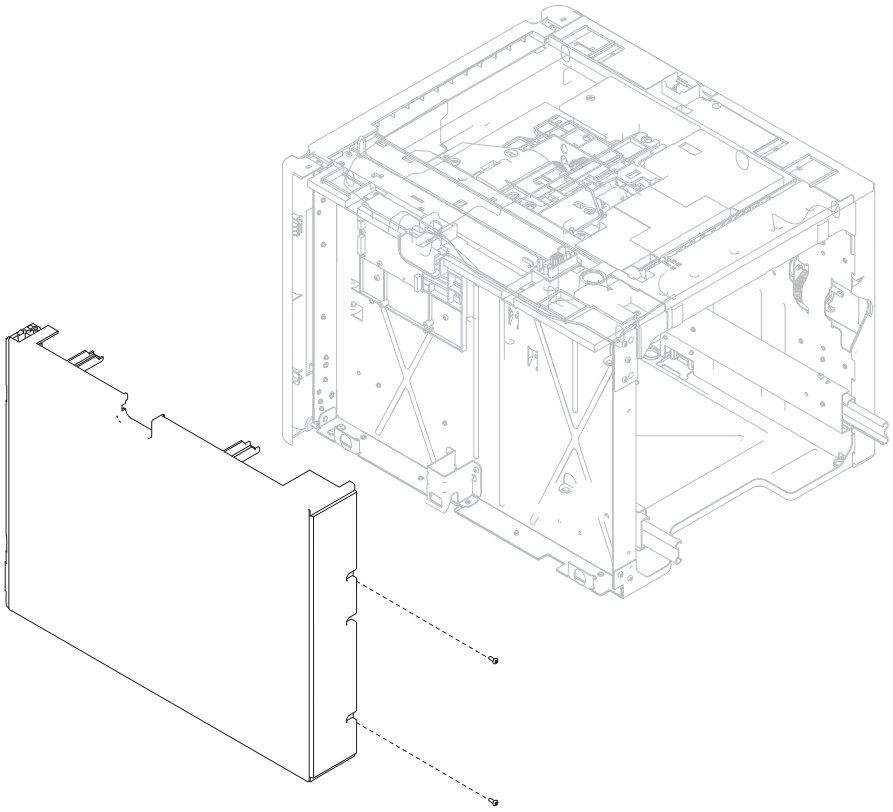
High capacity input tray (HCIT) cover, left removal

Note: Carefully remove the base machine from the HCIT tray assembly before proceeding.

Note: Before removing the HCIT cover, left, first remove the left side anti-tip latch assembly. See **"High capacity input tray (HCIT) anti-tip latch assembly removal" on page 4-165**.

1. Remove the HCIT cover, rear. See **"High capacity input tray (HCIT) cover, rear removal" on page 4-160**.
2. Remove the six screws (A) securing the HCIT cover, left to the drawer.
3. Use a screwdriver to gently pry up on the tabs (B).





4. Remove the HCIT cover, left.

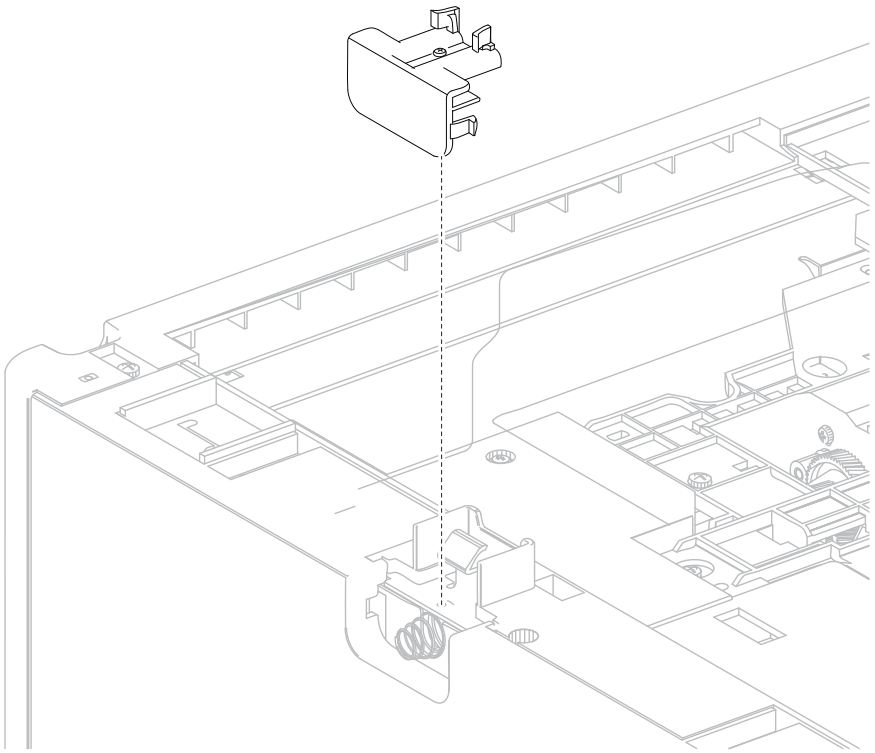
High capacity input tray (HCIT) anti-tip latch assembly removal

Note: Carefully remove the base machine from the HCIT tray assembly before proceeding.

The left and right anti-tip latch assemblies are the same, and only one is in a package. The instructions below are for removing the left latch; removing the right latch has similar instructions.

1. Remove the HCIT cover, left. See **"High capacity input tray (HCIT) cover, left removal" on page 4-164**.

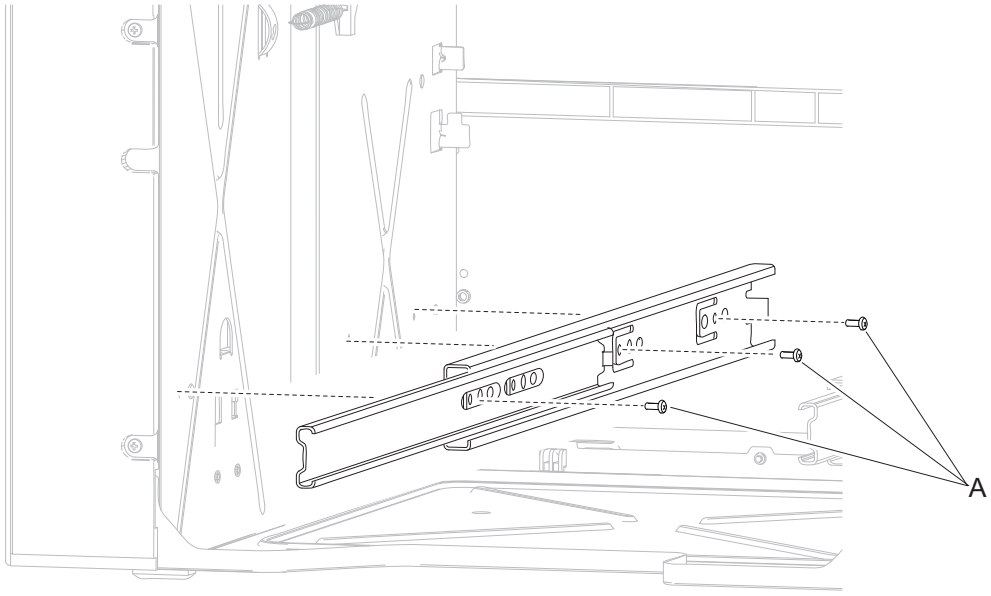
Note: The left side anti-tip assembly will come off when removing the HCIT cover, left.



High capacity input tray (HCIT) drawer slide assembly removal

The left and right drawer slide assemblies are the same, and only one is in a package. The instructions below are for removing the left slide; removing the right slide has similar instructions.

1. Remove the HCIT media tray assembly. See **"High capacity input tray (HCIT) media tray assembly removal" on page 4-157**.
2. Remove the three screws (A) securing the HCIT drawer slide to the frame of the drawer.



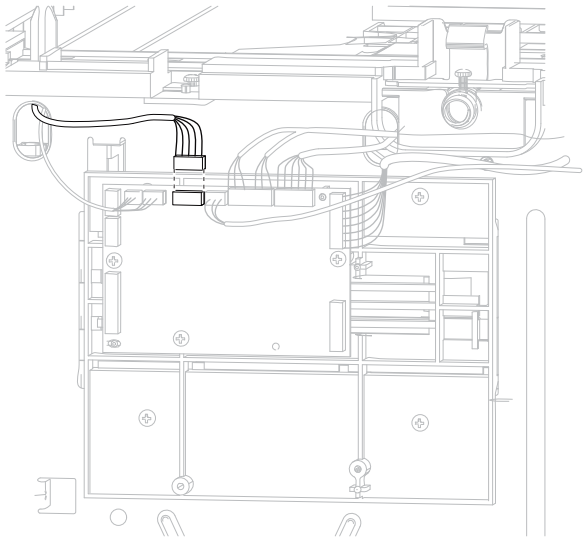
3. Remove the HCIT drawer slide.

High capacity input tray (HCIT) tray lift drive motor assembly removal

Note: Carefully remove the base machine from the HCIT tray assembly before proceeding.

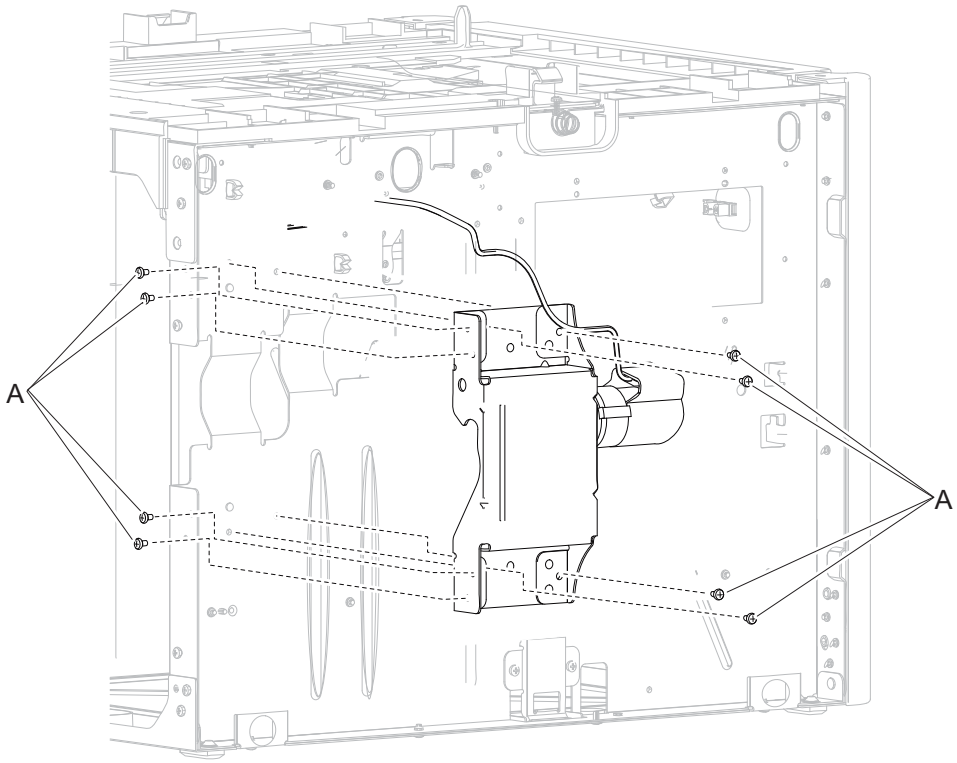
1. Remove the HCIT cover, right. See **"High capacity input tray (HCIT) cover, right removal" on page 4-162**.
2. Remove the HCIT cover, left. See **"High capacity input tray (HCIT) cover, left removal" on page 4-164**.

3. Disconnect the HCIT tray lift drive motor cable connector from the HCIT controller card assembly.



Note: Remove the cable from the restraint, and observe the routing for reinstallation.

4. Remove the eight screws (A) securing the HCIT tray lift drive motor assembly.

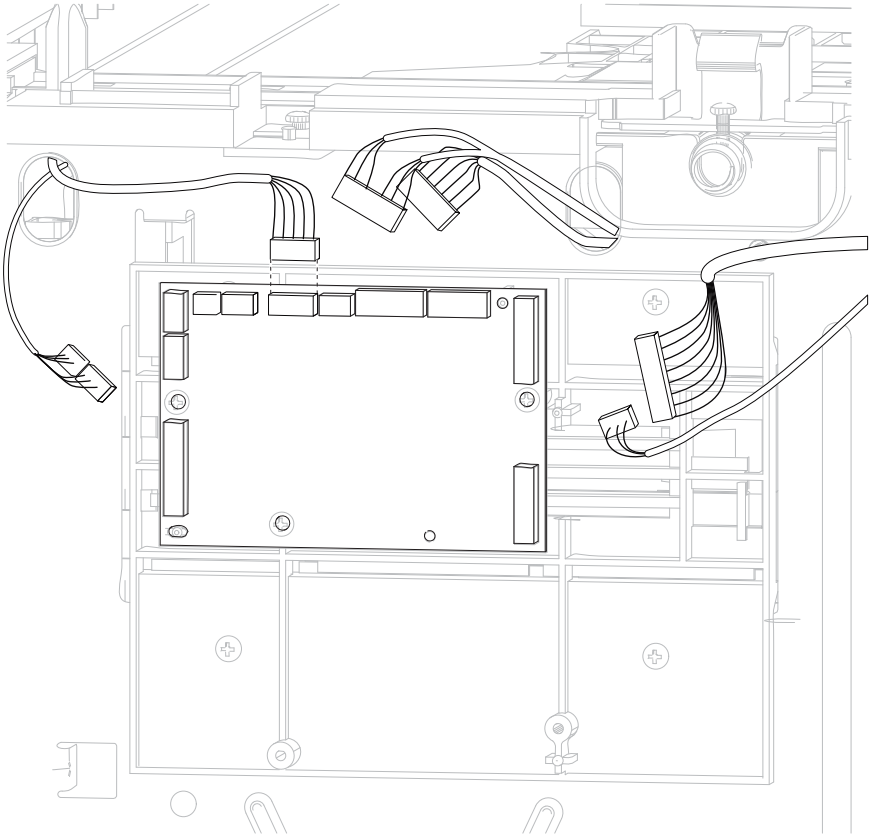


5. Remove the HCIT tray lift drive motor assembly.

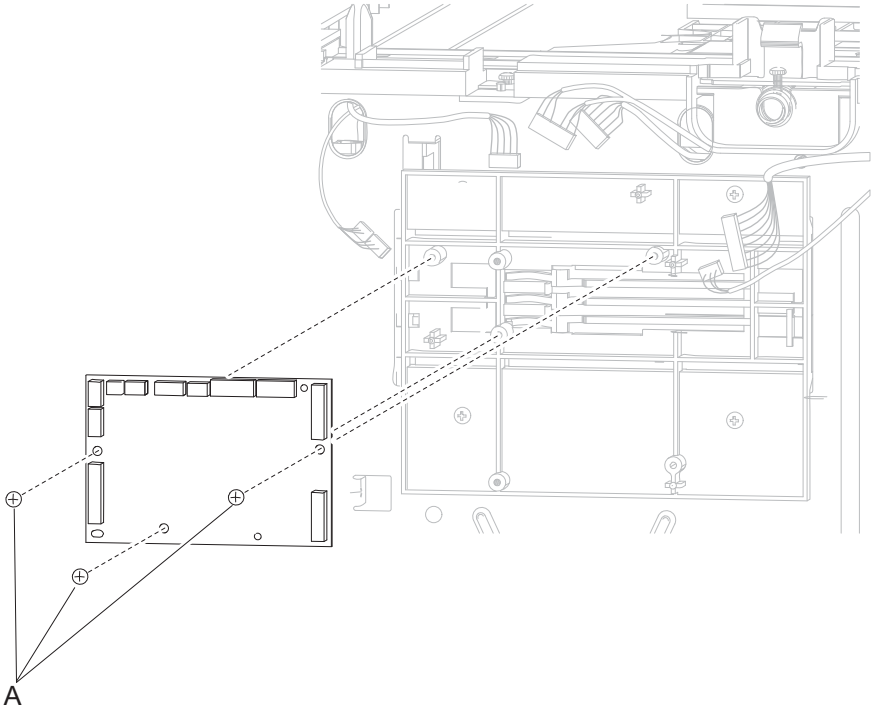
High capacity input tray (HCIT) controller card assembly removal

Note: Carefully remove the base machine from the HCIT tray assembly before proceeding.

1. Remove the HCIT cover, left. See **"High capacity input tray (HCIT) cover, left removal" on page 4-164**.
2. Disconnect all connectors from the HCIT controller card assembly.



3. Remove the three screws (A) securing the HCIT controller card assembly.

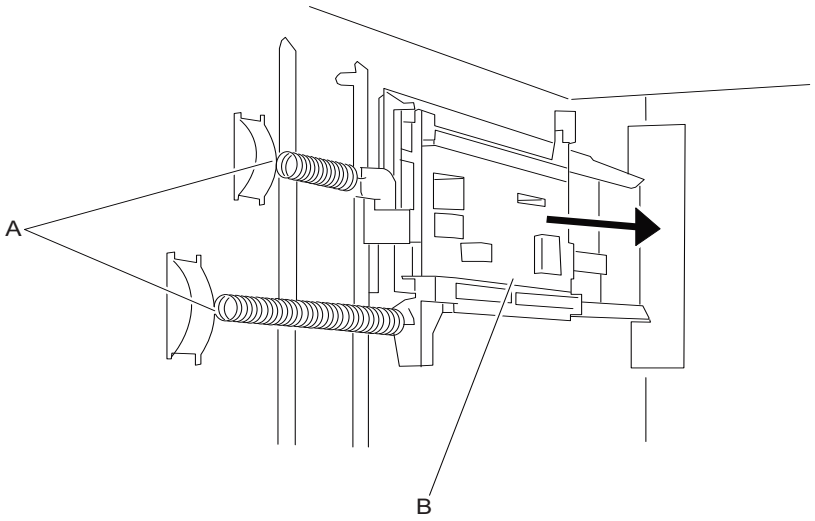


4. Remove the HCIT controller card assembly and the shield.

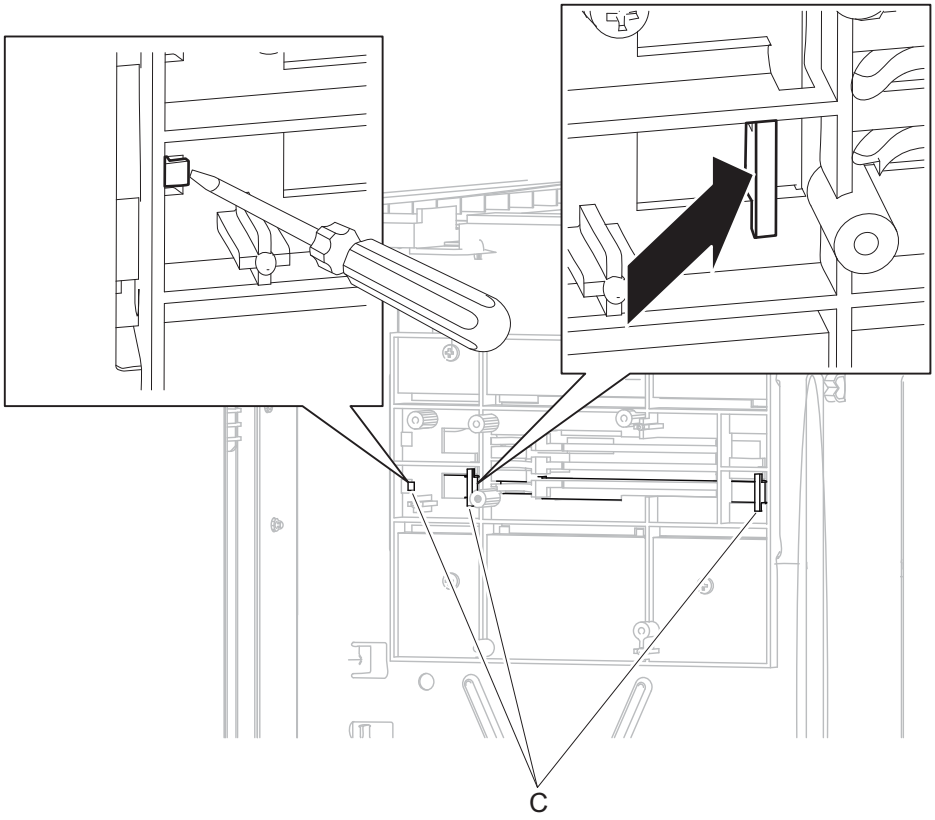
High capacity input tray (HCIT) media size actuator assembly removal

Note: Carefully remove the base machine from the HCIT tray assembly before proceeding.

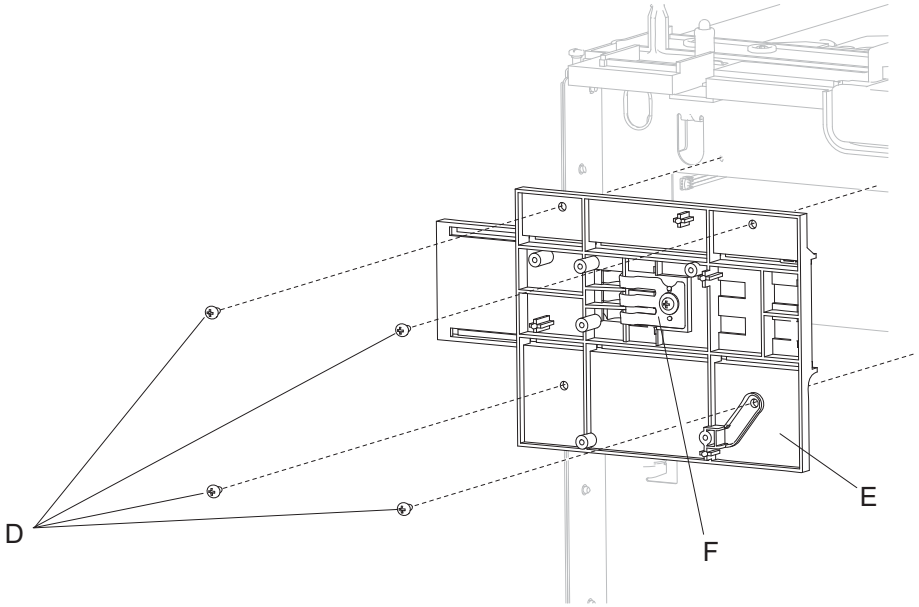
1. Remove the HCIT controller card assembly. See **"High capacity input tray (HCIT) controller card assembly removal" on page 4-169**.
2. Disconnect the two springs (A) from the frame.
3. Slide the cam size sensing plate (B) through the access hole in the rear side frame.



4. Snap loose the actuator switch (C) and remove.

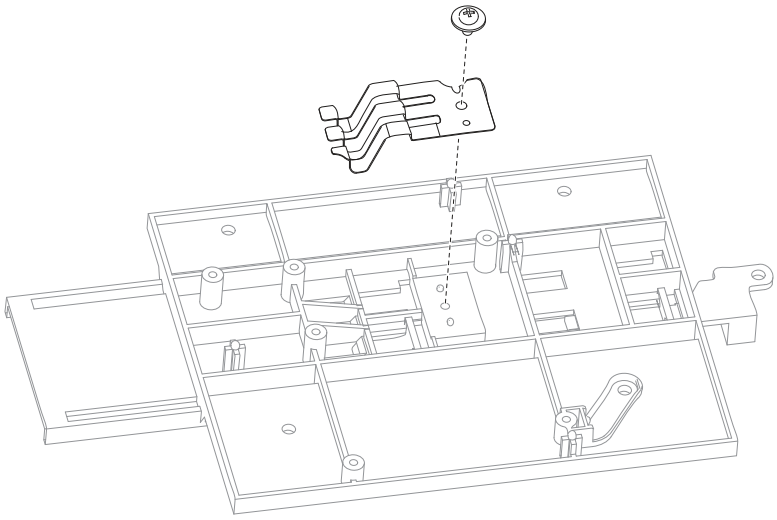


5. Remove the four screws (D) securing the media size actuator (E) and the card mount option (F) to the frame.



6. Remove the screw securing the media size actuator to the card mount option.

7. Remove the media size actuator from the card mount option.

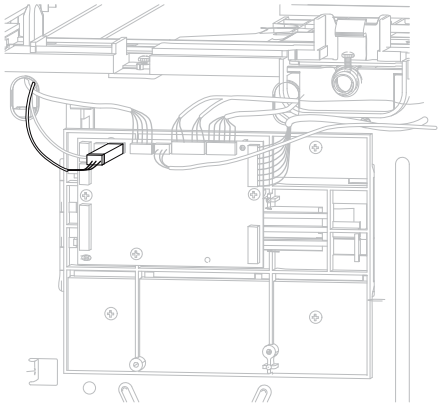


8. Remove the card mount option.

Sensor (HCIT tray raised HP) with cable assembly removal

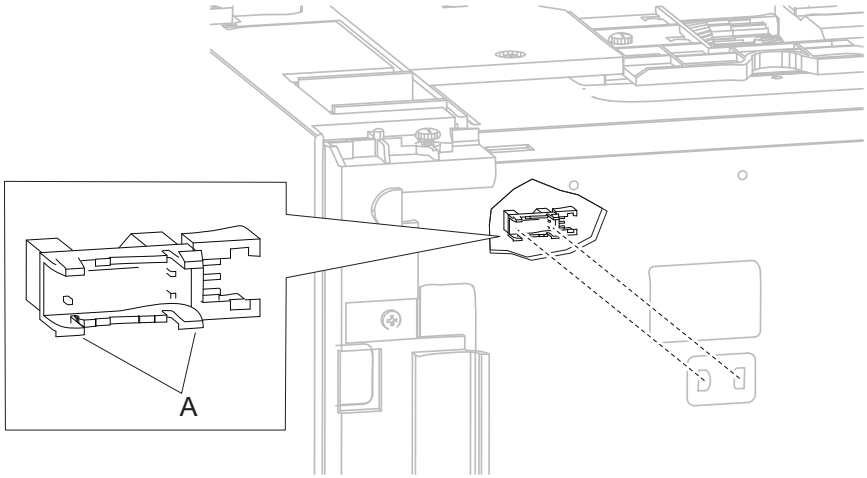
Note: Carefully remove the base machine from the HCIT tray assembly before proceeding.

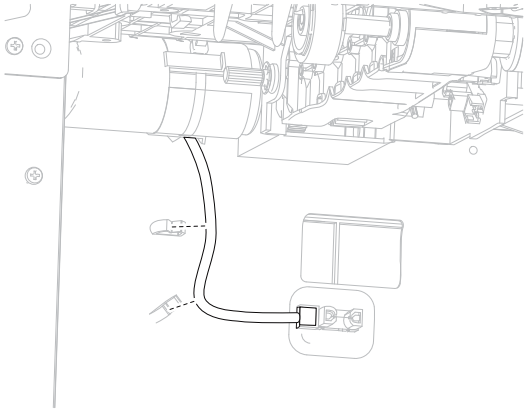
1. Remove the HCIT cover, left. See **"High capacity input tray (HCIT) cover, left removal" on page 4-164**.
2. Disconnect the sensor (HCIT tray raised HP) from the HCIT controller card assembly.



Note: Remove the cable from the restraints, and observe the routing for reinstallation.

3. Remove the screw (A) securing the sensor to the upper rear frame.
4. Release the hooks (A) securing the sensor to the rear frame.





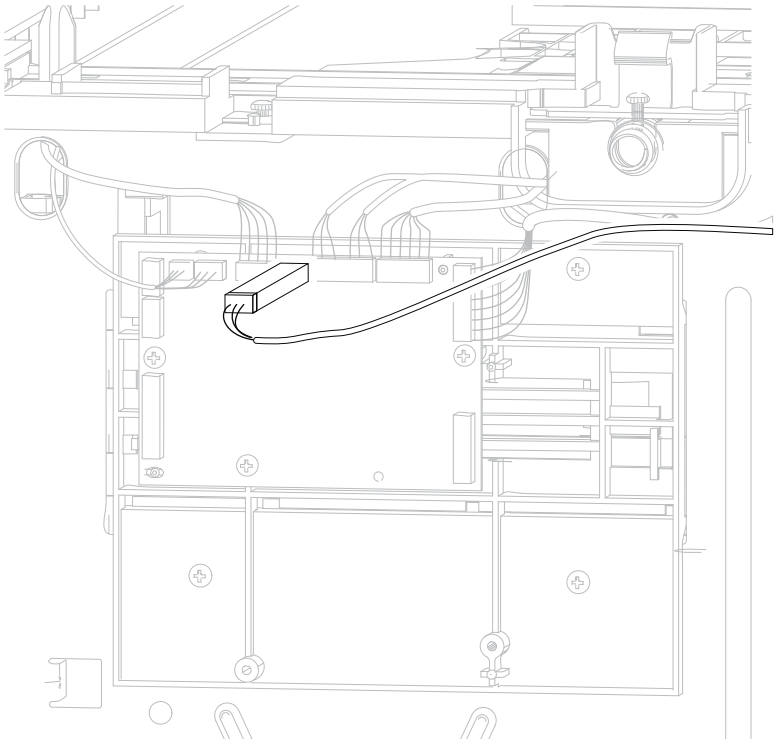
5. Remove the sensor (HCIT tray raised HP).

Sensor (HCIT pass through) with cable removal

Note: Carefully remove the base machine from the HCIT tray assembly before proceeding.

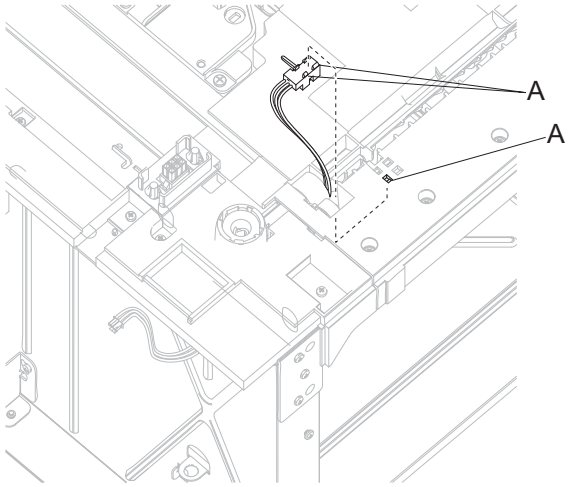
1. Remove the HCIT cover, left. See **"High capacity input tray (HCIT) cover, left removal" on page 4-164**.

2. Disconnect the sensor (HCIT pass through) from the HCIT controller card assembly.



Note: Remove the cable restraint, and observe the routing for reinstallation.

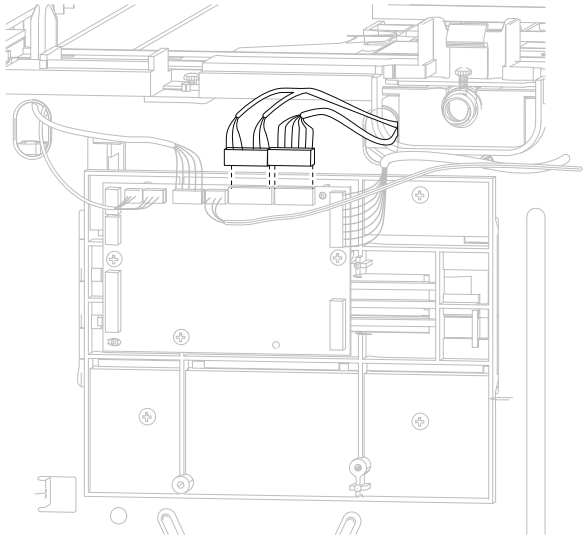
3. Release the hooks (A) securing the sensor (HCIT pass through) to the machine.
4. Remove the sensor (HCIT pass through) with cable from the top plate.



High capacity input tray (HCIT) pick arm bracket assembly removal

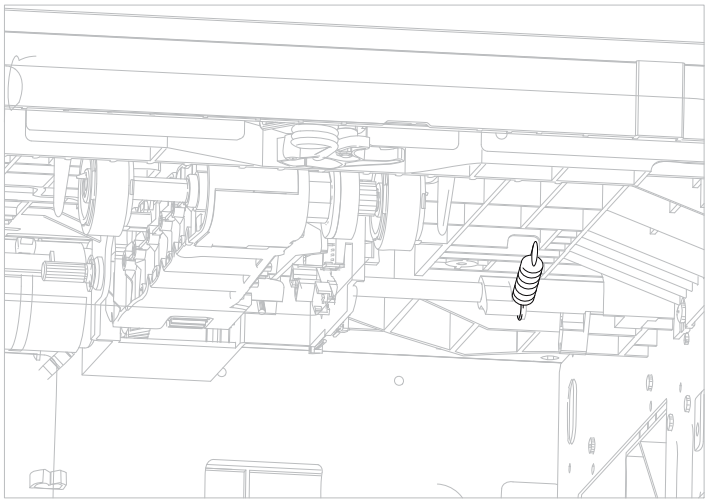
Note: Carefully remove the base machine from the HCIT tray assembly before proceeding.

1. Remove the HCIT cover, left. See **"High capacity input tray (HCIT) cover, left removal" on page 4-164**.
2. Remove the HCIT pick arm bracket assembly cable connectors from the HCIT controller card assembly.

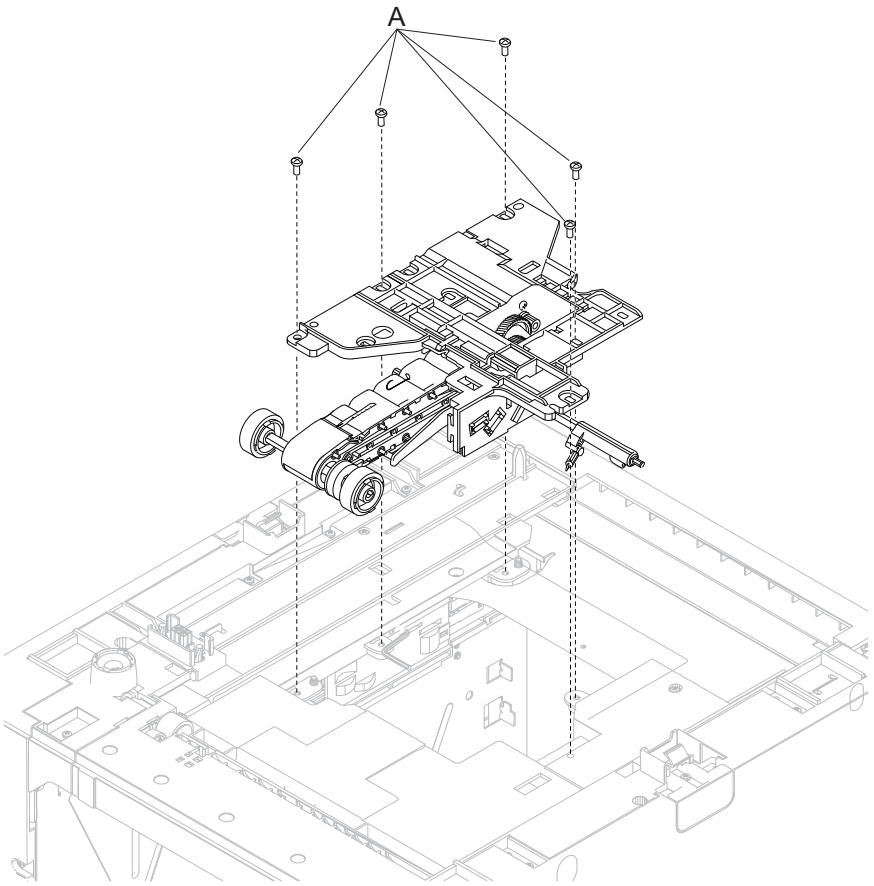


Note: Remove the cable from the restraint, and observe the routing for reinstallation.

3. Remove the pick arm lift spring from the drawer.



4. Remove the five screws (A) securing the HCIT pick arm bracket assembly.

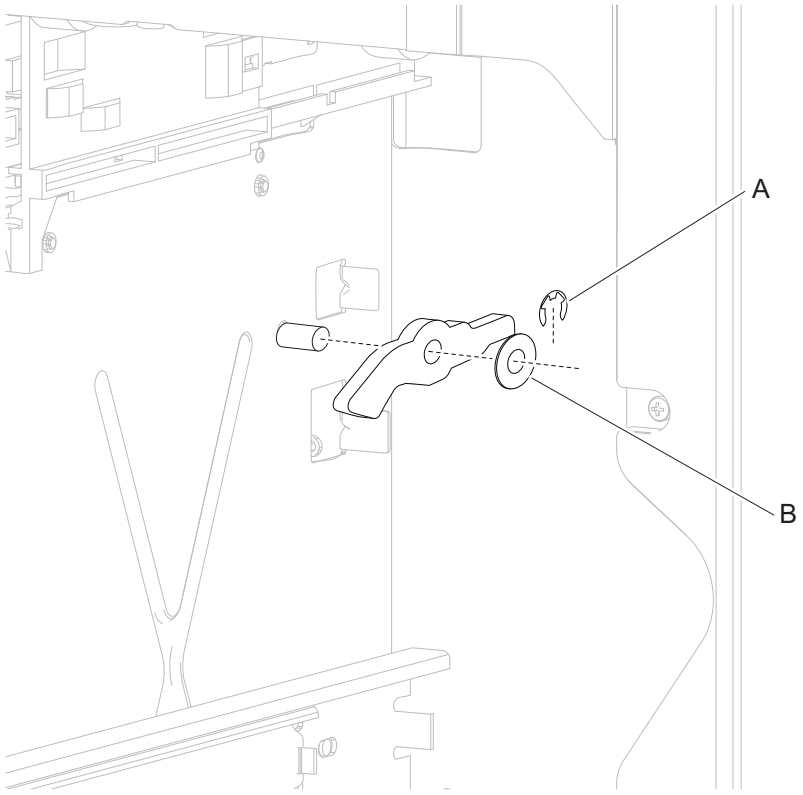


5. Remove the HCIT pick arm bracket assembly from the drawer by slightly lifting and removing it.

High capacity input tray (HCIT) tray closed latch with spring removal

The left and right tray closed latches with springs are the same, and only one is in a package. The instructions below are for removing the left latch; removing the right latch has similar instructions.

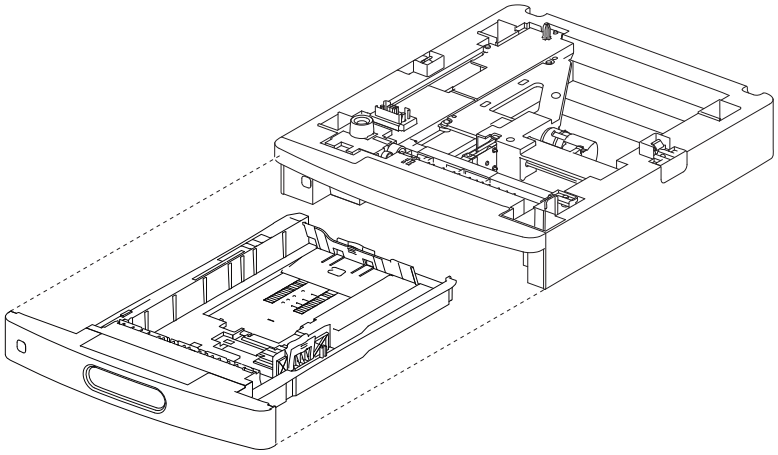
1. Remove the HCIT tray assembly. See **"High capacity input tray (HCIT) media tray assembly removal" on page 4-157**.
2. Remove the E-clip (A) and the washer (B) with a prying tool securing the HCIT tray closed latch with spring to the left frame.



3. Remove the HCIT tray closed latch with spring.

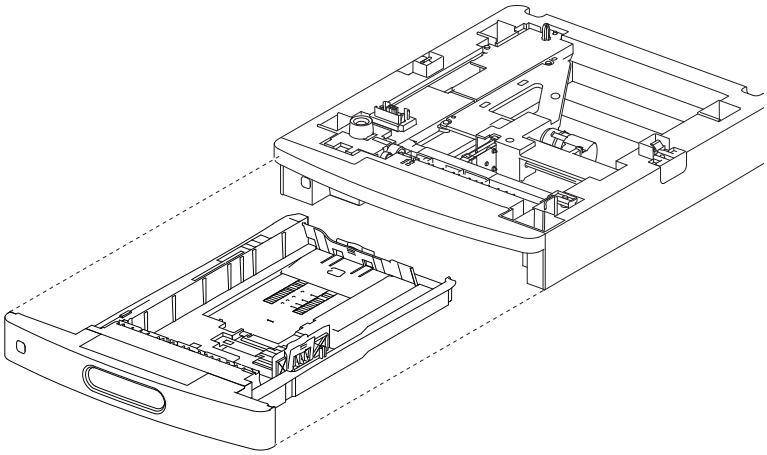
250-sheet media tray assembly removal

Remove the 250-sheet media tray assembly from the 250-sheet option drawer assembly.



250-sheet option drawer assembly removal

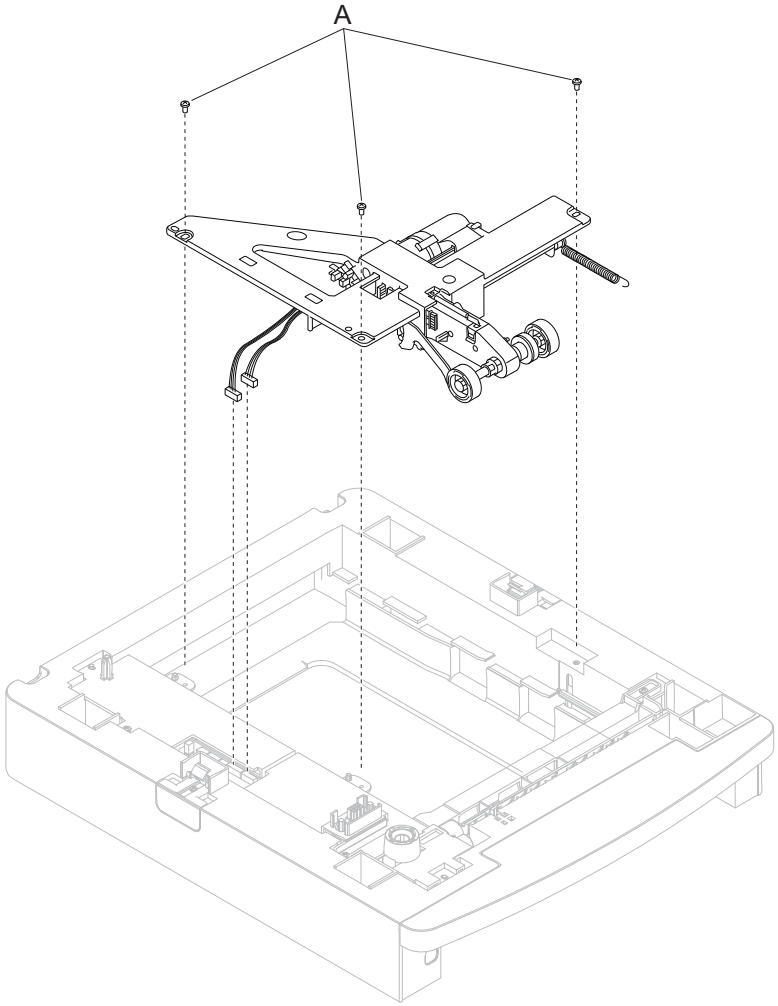
Remove the 250-sheet media tray assembly from the 250-sheet option drawer assembly.



250-sheet pick arm bracket assembly removal

Note: Carefully remove the base machine from the input option tray assembly before proceeding.

1. Disconnect the two 250-sheet pick arm bracket assembly cable connectors from the 250-sheet controller card assembly.
2. Detach the pick arm spring from the drawer.
3. Remove the three screws (A) securing the 250-sheet pick arm bracket assembly to the drawer.

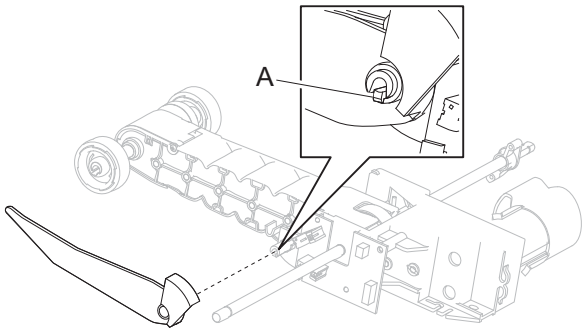


4. Remove the 250-sheet pick arm bracket assembly.

250-sheet media out actuator removal

Note: Carefully remove the base machine from the input option tray assembly before proceeding.

1. Remove the 250-sheet pick arm bracket assembly. See **"250-sheet pick arm bracket assembly removal" on page 4-179**.
2. Release the hook (A) securing the 250-sheet media out actuator to the 250-sheet pick arm bracket assembly.



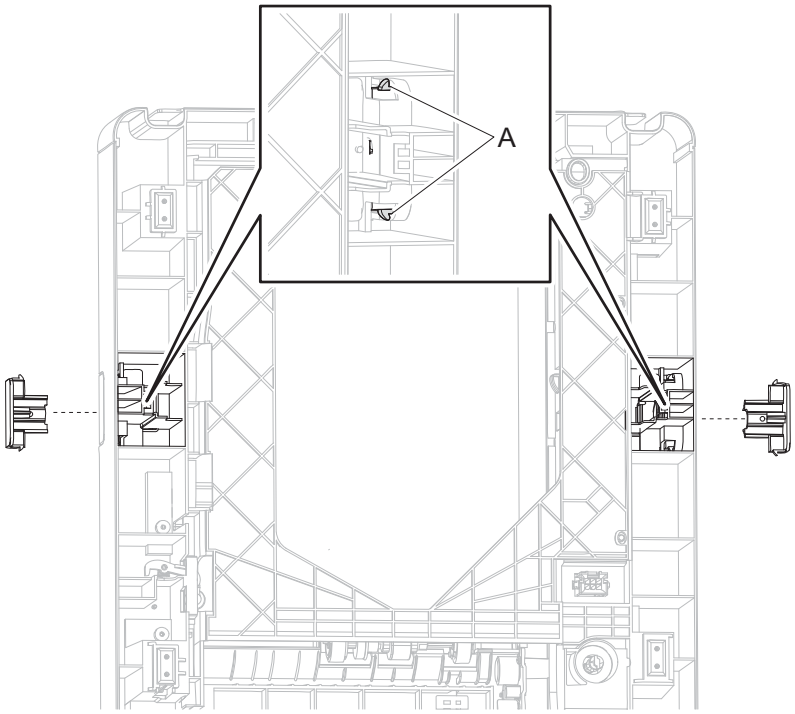
3. Remove the 250-sheet media out actuator from the drawer.

Anti-tip latch assembly removal

Note: Carefully remove the base machine from the input option tray assembly before proceeding.

The left and right anti-tip latch assemblies are the same, and only one is in a package. The instructions below are for removing the left latch, but removing the right latch is similar.

1. Remove the 250-sheet tray assembly. See **"250-sheet media tray assembly removal" on page 4-178**.
2. Turn the drawer over so that you are looking at the bottom of the anti-tip latch assembly. Using a flathead screwdriver, *unsnap* the two latches (A) securing the anti-tip latch assembly to the drawer.

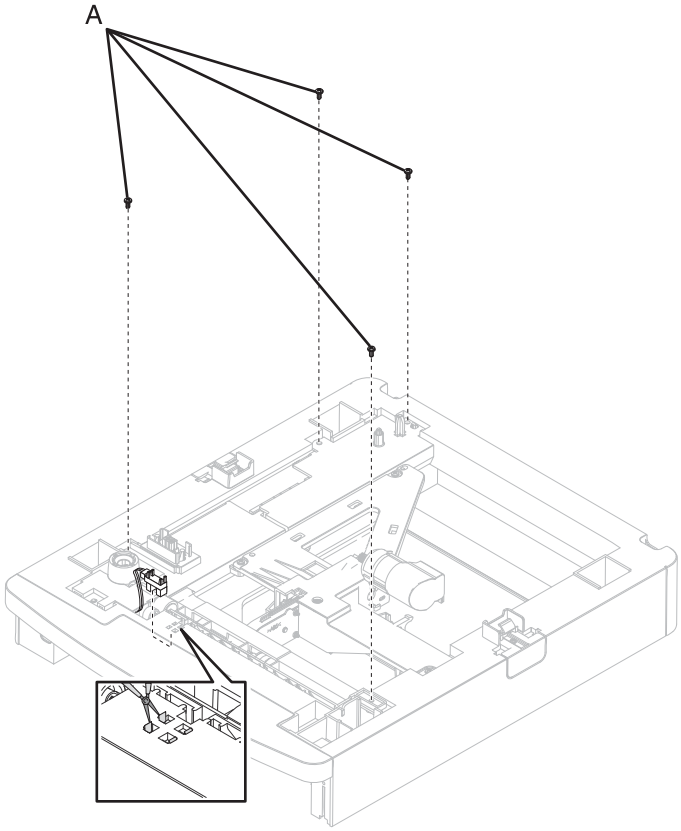


3. Remove the anti-tip latch assembly.

250-sheet frame assembly removal

Note: The 250-sheet frame assembly is not a FRU.

1. Remove the 250-sheet pick arm bracket assembly. See **"250-sheet pick arm bracket assembly removal" on page 4-179.**
2. Release the hooks securing the sensor (pass through) to the drawer.
3. Remove the sensor (pass through) from the drawer.
4. Remove the four screws (A) securing the 250-sheet frame assembly to the drawer.



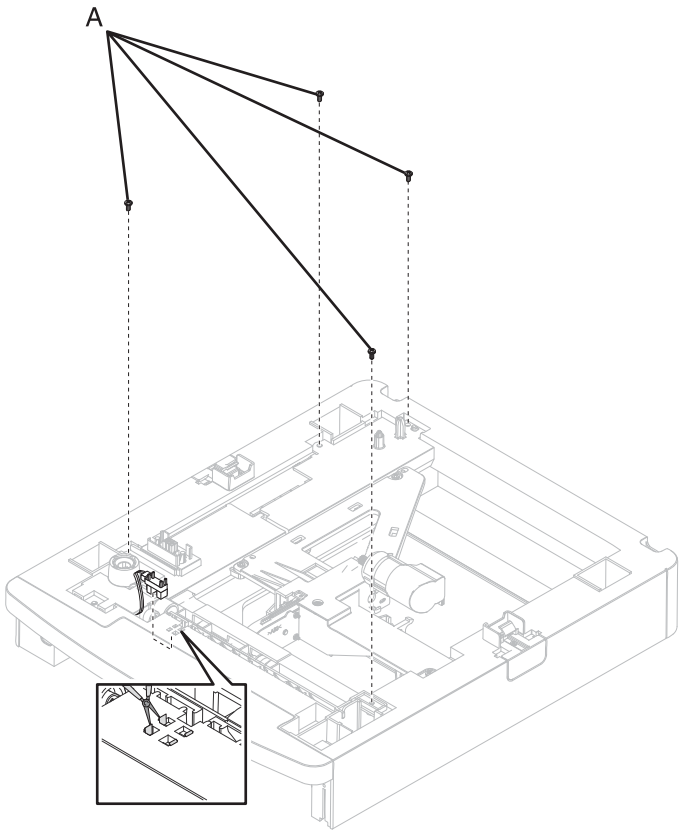
5. Remove the 250-sheet frame assembly.

Sensor (pass through) with cable removal

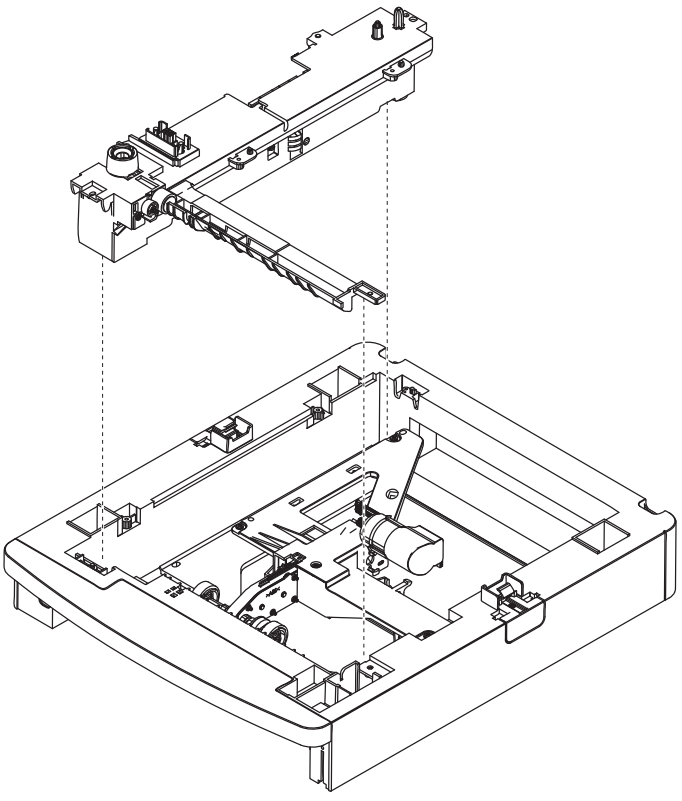
Note: Carefully remove the base machine from the input option tray assembly before proceeding.

1. Remove the 250-sheet pick arm bracket assembly. See **"250-sheet pick arm bracket assembly removal" on page 4-179.**
2. Release the hooks securing the sensor (pass through) to the drawer.
3. Remove the sensor (pass through) from the drawer.

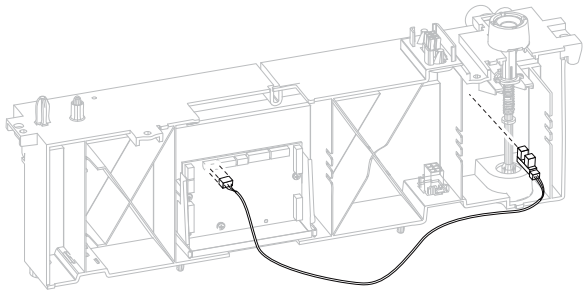
4. Remove the four screws (A) securing the 250-sheet frame assembly to the drawer.



5. Remove the 250-sheet frame assembly.

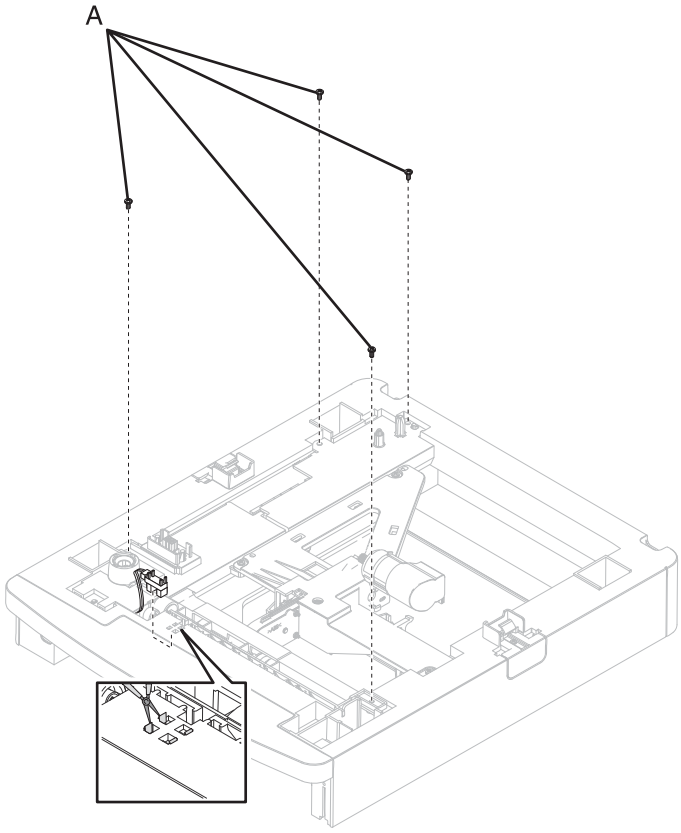


6. Disconnect the sensor (pass through) cable connector from the 250-sheet controller card.
7. Remove the sensor (pass through) with cable.

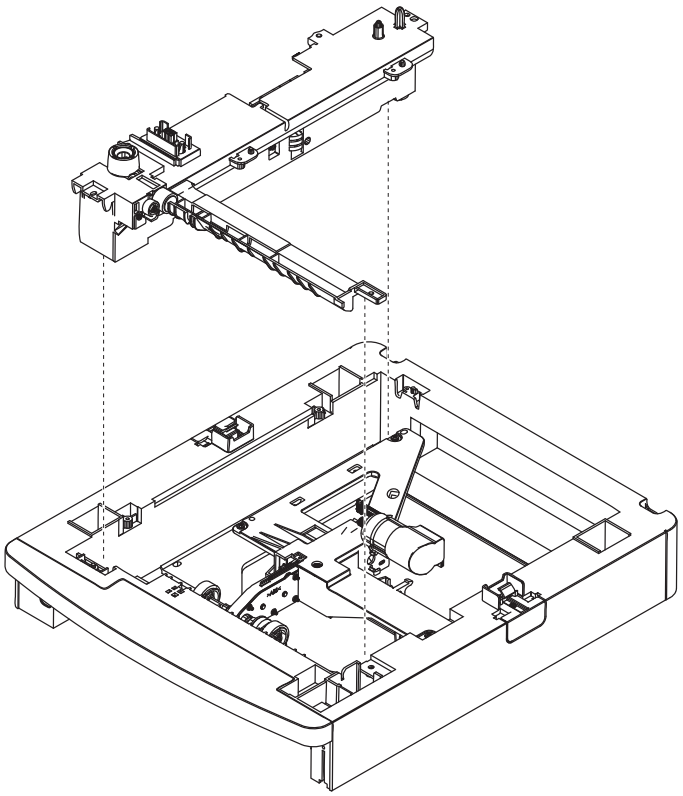


250-sheet controller card assembly removal

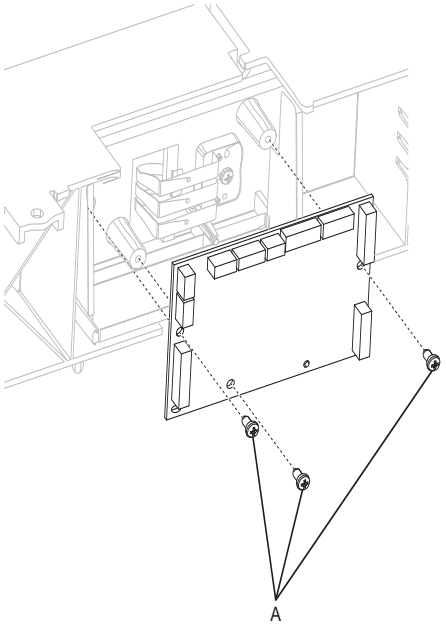
1. Remove the 250-sheet pick arm bracket assembly. See **“250-sheet pick arm bracket assembly removal” on page 4-179.**
2. Release the hooks securing the sensor (pass through) to the drawer.
3. Remove the sensor (pass through) from the drawer.
4. Remove the four screws (A) securing the 250-sheet frame assembly to the drawer.



5. Remove the 250-sheet frame assembly.



6. Disconnect the three connectors from the 250-sheet controller card assembly.
7. Remove the three screws (B) securing the 250-sheet controller card assembly to the 250-sheet frame.

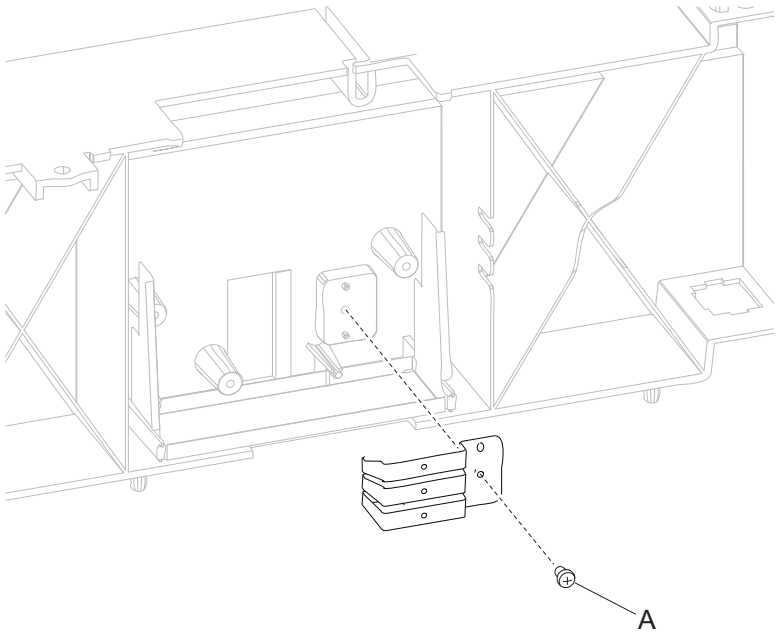


8. Remove the 250-sheet controller card assembly.

Media size actuator removal

Note: Carefully remove the base machine from the input option tray assembly before proceeding.

1. Remove the 250-sheet controller card assembly. Go to **"250-sheet controller card assembly removal" on page 4-184**.
2. Remove the screw (A) securing the media size actuator to the 250-sheet frame.

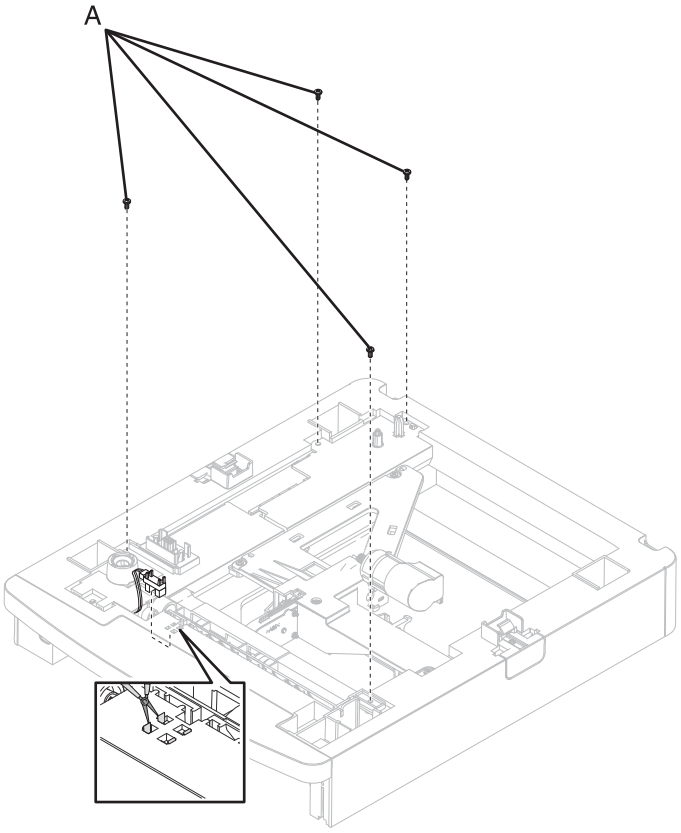


3. Remove the media size actuator.

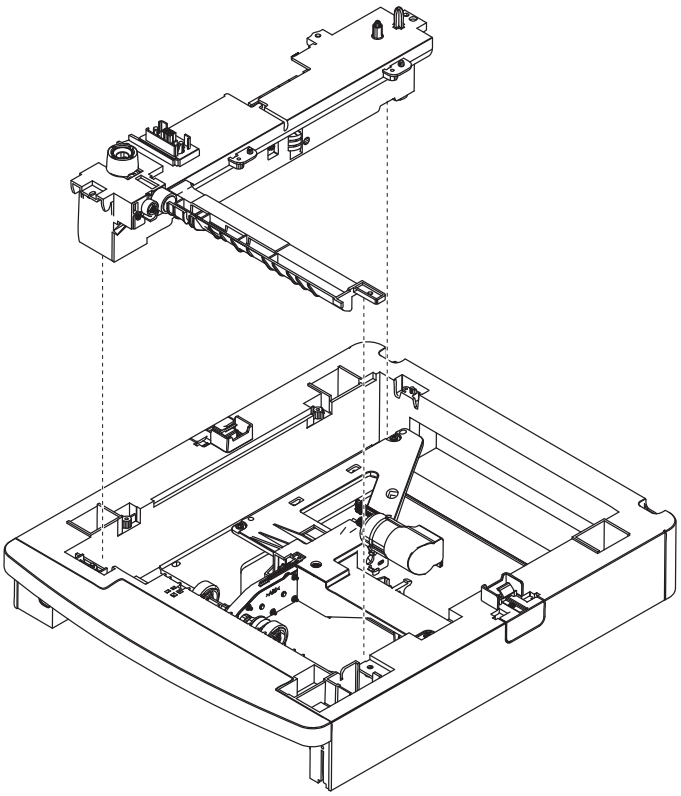
Media tray catch spring removal

Note: Carefully remove the base machine from the input option tray assembly before proceeding.

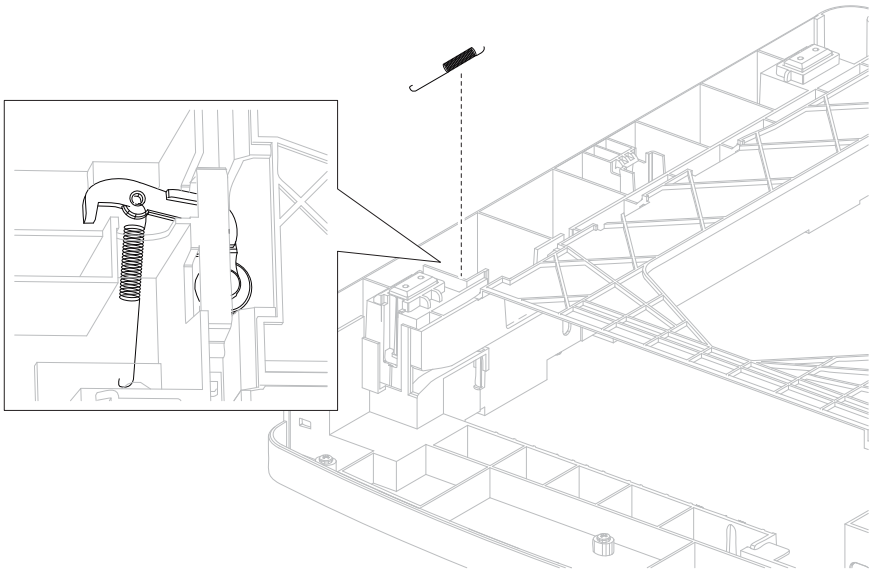
1. Remove the 250-sheet pick arm bracket assembly. See **"250-sheet pick arm bracket assembly removal" on page 4-179**.
2. Release the hooks securing the sensor (pass through) to the drawer.
3. Remove the sensor (pass through) from the drawer.
4. Remove the four screws (A) securing the 250-sheet frame assembly to the drawer.



5. Remove the 250-sheet frame assembly.



6. Turn the drawer over so that you can access the media tray catch spring.



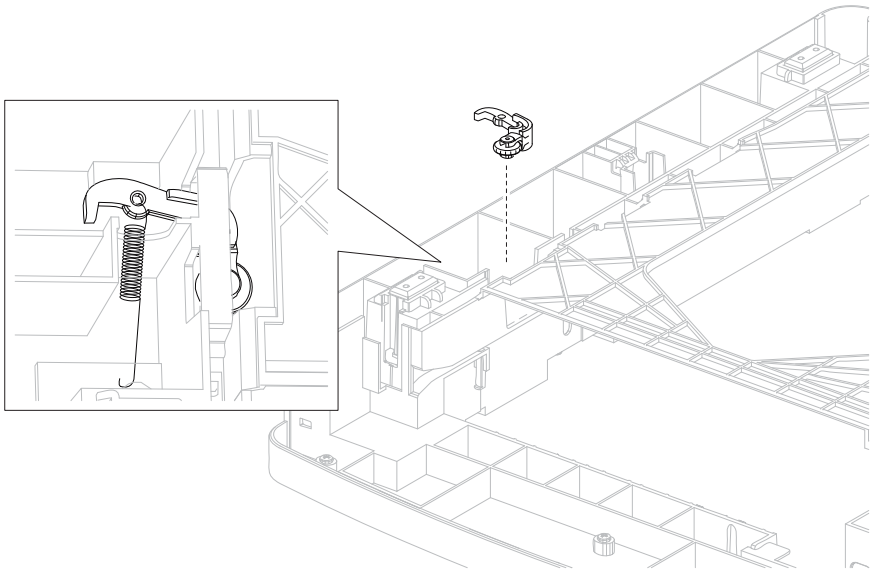
7. Release the media tray catch spring.

Tray roller catch assembly removal

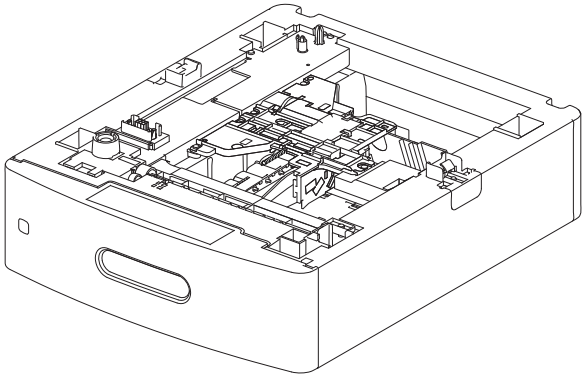
Note: Carefully remove the base machine from the input option tray assembly before proceeding.

1. Remove the media tray catch spring. See **"Media tray catch spring removal" on page 4-187**.

2. Remove the tray roller catch assembly from the drawer.

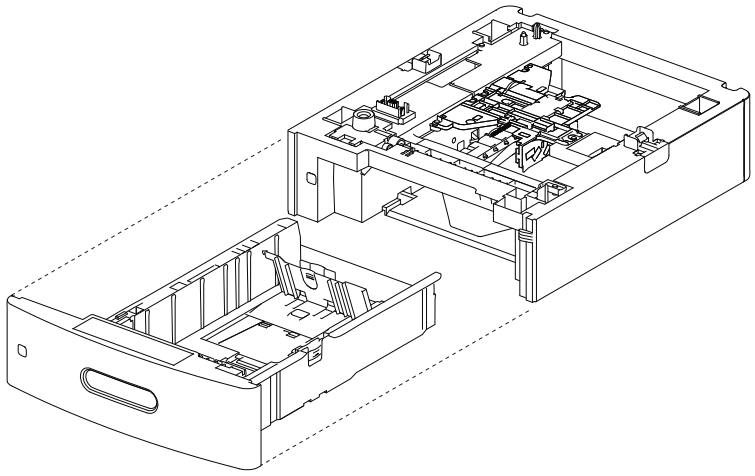


550-sheet option tray assembly



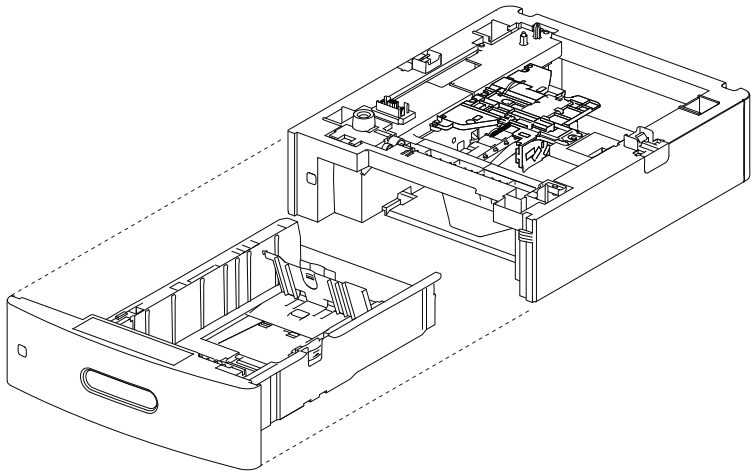
550-sheet media tray assembly removal

Remove the 550-sheet media tray assembly from the 550-sheet option drawer assembly.



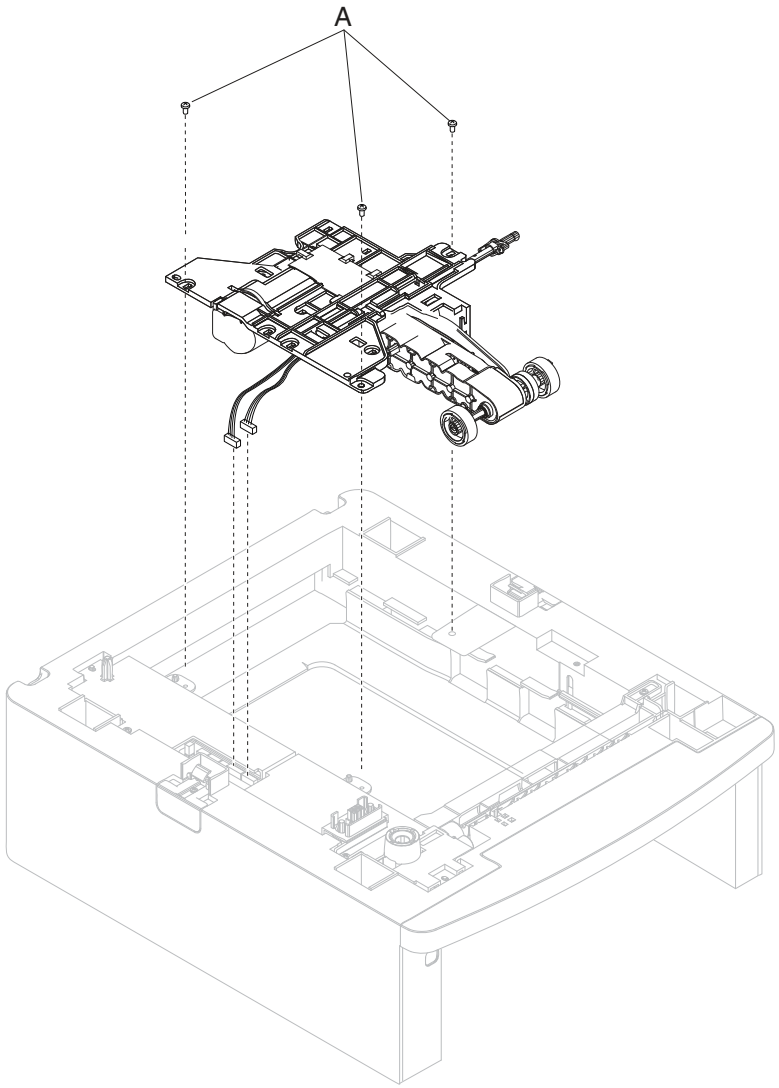
550-sheet option drawer assembly removal

Remove the 550-sheet media tray assembly from the 550-sheet option drawer assembly.



550-sheet pick arm bracket assembly removal

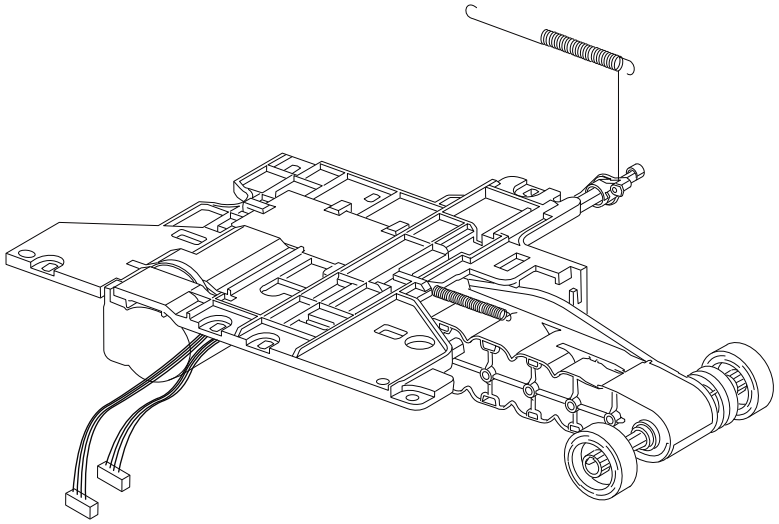
1. Remove the 550-sheet media tray assembly. See **“550-sheet media tray assembly removal” on page 4-191**.
2. Remove the two 550-sheet pick arm bracket assembly cable connectors (A) from the 550-sheet controller card assembly.
3. Detach the 550-sheet bellcrank recoil spring (B) from the drawer.
4. Remove the four screws (C) securing the 550-sheet pick arm bracket assembly to the drawer.



5. Remove the 550-sheet pick arm bracket assembly.

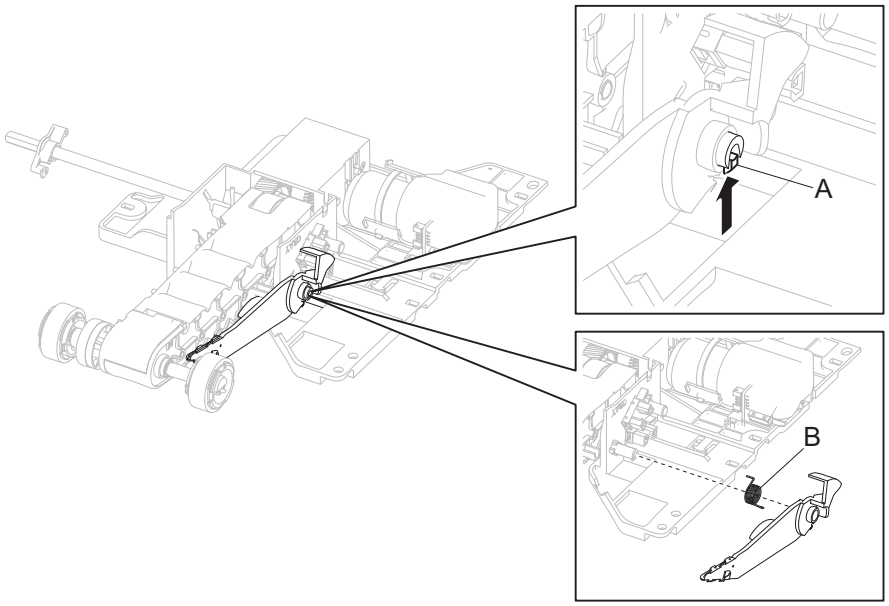
550-sheet bellcrank recoil spring removal

1. Remove the 550-sheet pick arm bracket assembly. See **"550-sheet pick arm bracket assembly removal" on page 4-192**.
2. Remove the 550-sheet bellcrank recoil spring from the 550-sheet pick arm bracket assembly.



Media out actuator removal (models T652 and T654)

1. Remove the 550-sheet pick arm bracket assembly. See **"550-sheet pick arm bracket assembly removal" on page 4-192**.
2. Release the hook (A) securing the media out actuator with spring to the 550-sheet pick arm bracket assembly.
3. Detach the spring (B) from the media out actuator.

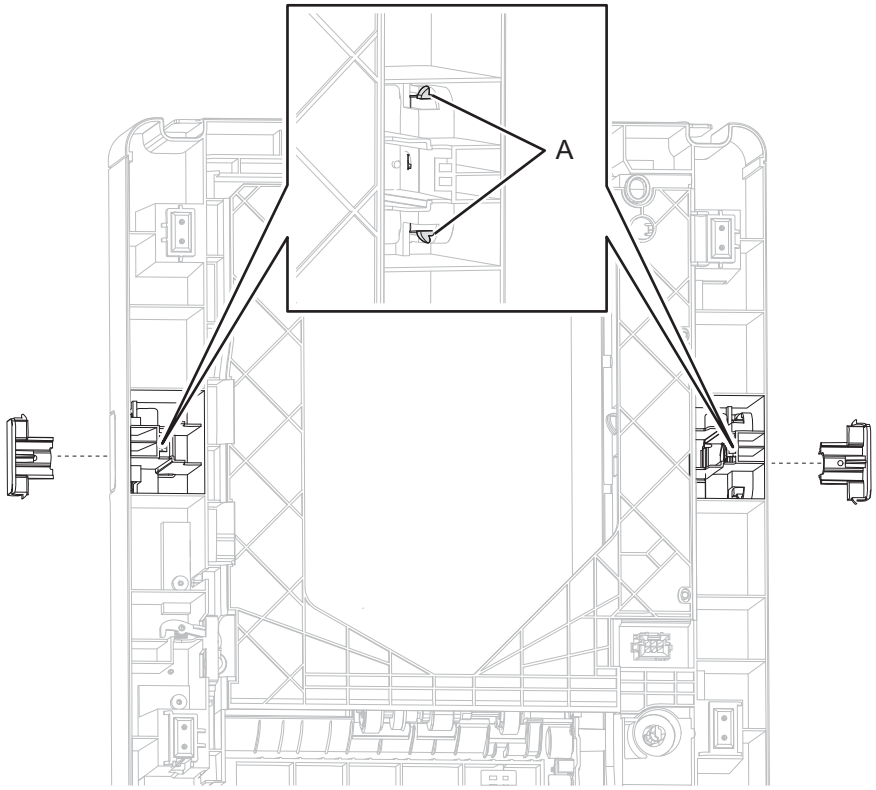


Anti-tip latch assembly removal

The left and right anti-tip latch assemblies are the same, and only one is in a package. The instructions below are for removing the left latch, but removing the right latch is similar.

1. Remove the 550-sheet media tray assembly. See **"550-sheet media tray assembly removal" on page 4-191**.
2. Turn the drawer over so that you are looking at the bottom of the anti-tip assembly. Using a flathead screwdriver, *unsnap* the two hooks (A) securing the anti-tip latch to the drawer.

Note: The hooks might break when detaching the anti-tip latch assembly from the drawer.

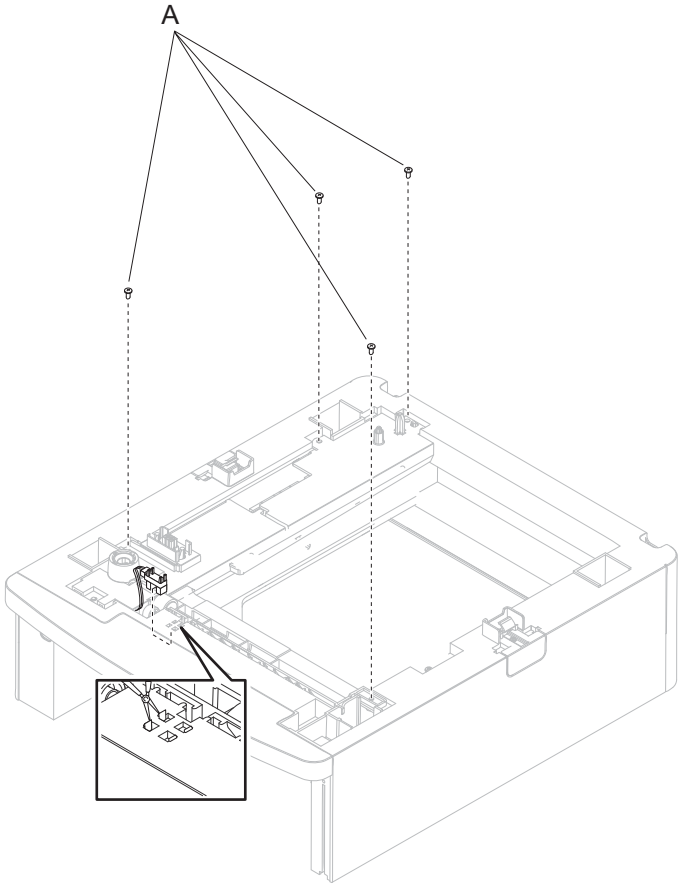


3. Remove the anti-tip latch assembly.

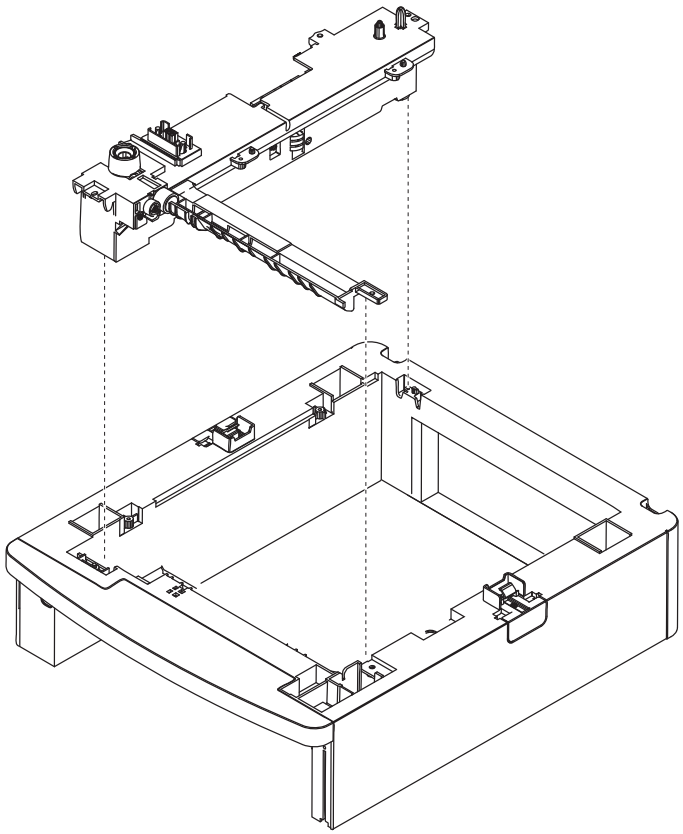
550-sheet frame assembly removal

Note: The 550-sheet frame assembly is not a FRU.

1. Remove the 550-sheet pick arm bracket assembly. See **"550-sheet pick arm bracket assembly removal" on page 4-192**.
2. Release the hooks securing the sensor (pass through) to the drawer.
3. Remove the sensor (pass through) from the drawer.
4. Remove the four screws (A) securing the 550-sheet frame assembly to the drawer.

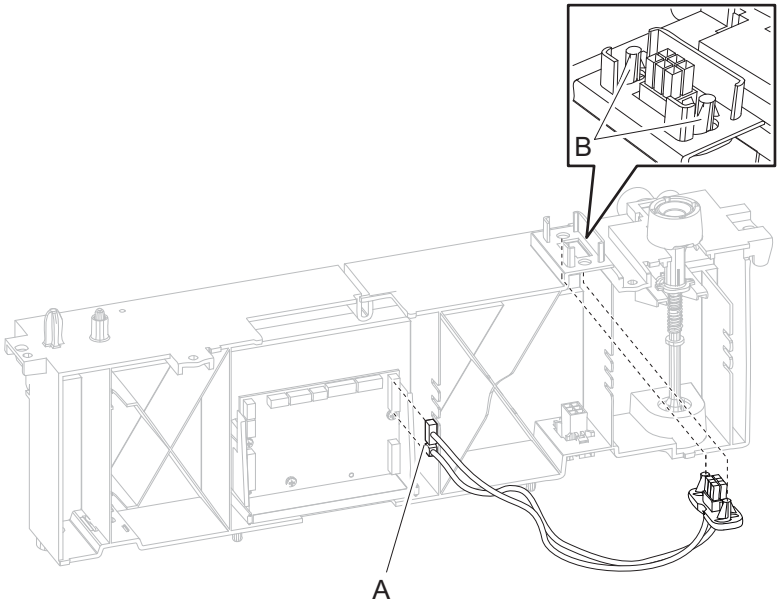


5. Remove the 550-sheet frame assembly.



Upper interface cable assembly removal

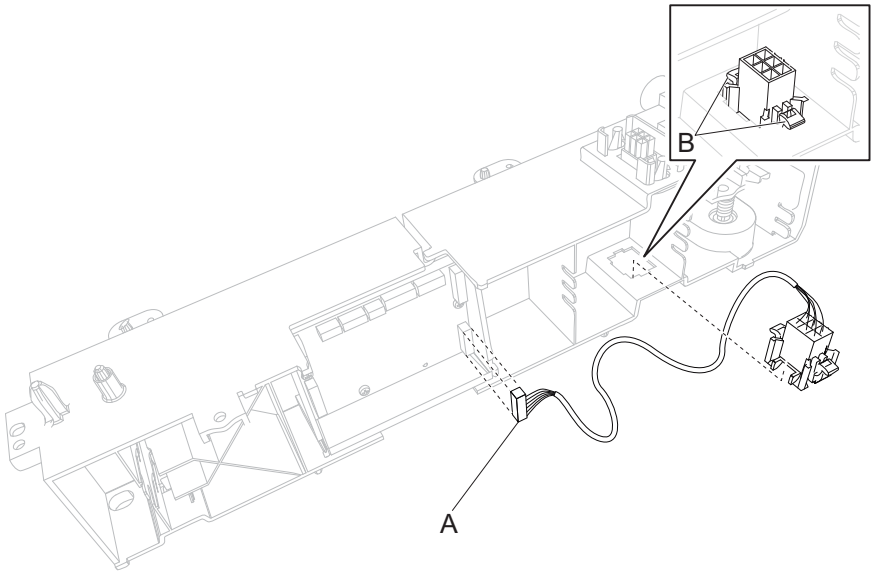
1. Remove the 550-sheet frame assembly. See **“550-sheet frame assembly removal” on page 4-195**.
2. Disconnect the upper interface cable connector (A) from the 550-sheet controller card.
3. Release the two hooks (B) securing the options auto connect to the 550-sheet frame.



4. Remove the upper interface cable assembly.

Lower interface cable assembly removal

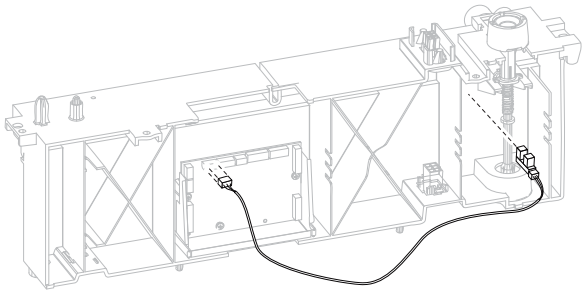
1. Remove the 550-sheet frame assembly. See **“550-sheet frame assembly removal” on page 4-195**.
2. Disconnect the lower interface cable connector (A) from the 550-sheet controller card.
3. Pinch the options auto connect (B) to separate the lower interface cable assembly from the 550-sheet frame.



4. Remove the lower interface cable assembly.

Sensor (pass through) with cable removal

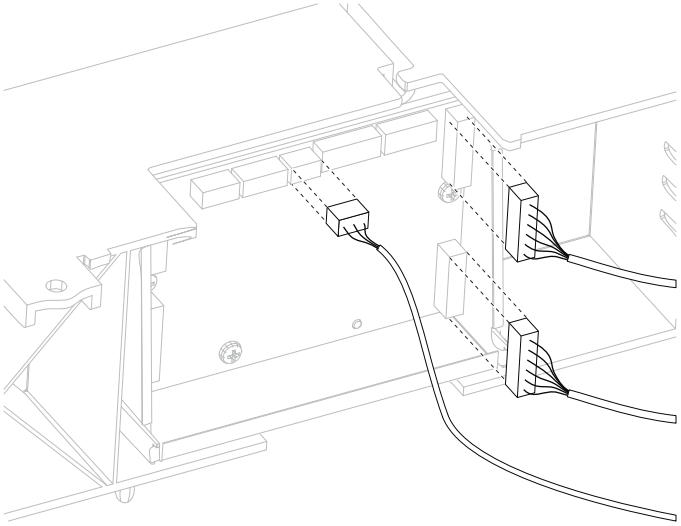
1. Remove the 550-sheet frame assembly. See **“550-sheet frame assembly removal” on page 4-195**.
2. Disconnect the sensor (pass through) cable connector from the 550-sheet controller card.



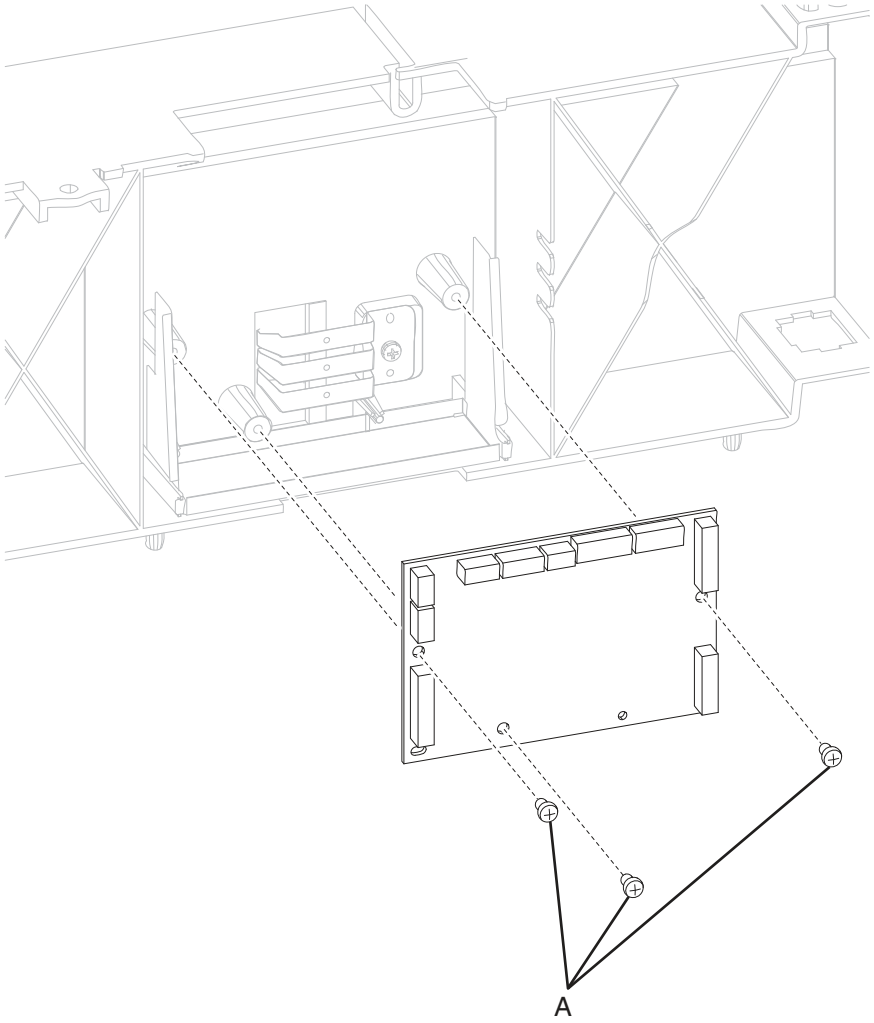
3. Remove the sensor (pass through) with cable.

550-sheet controller card assembly removal

1. Remove the 550-sheet frame assembly. See **“550-sheet frame assembly removal” on page 4-195**.
2. Disconnect the three connectors from the 550-sheet controller card assembly.



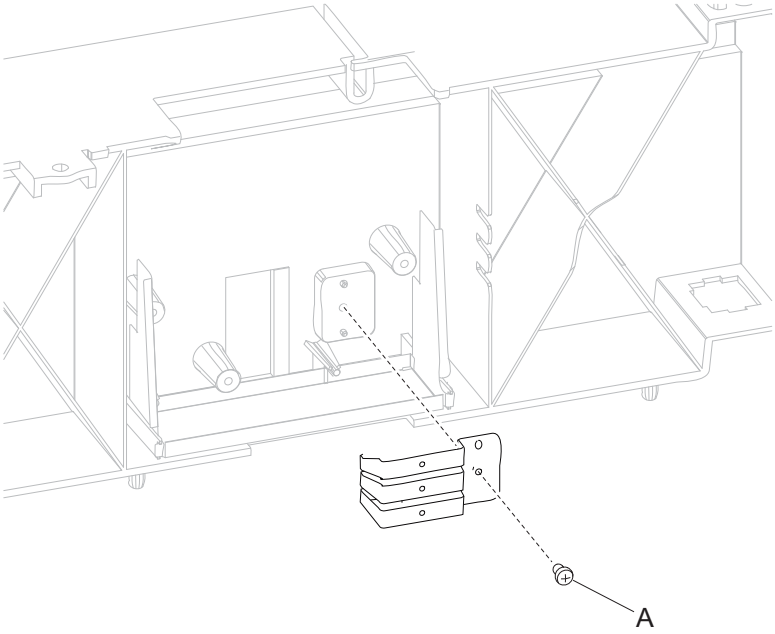
3. Remove the three screws (A) securing the 550-sheet controller card assembly to the 550-sheet frame.



4. Remove the 550-sheet controller card assembly.

Media size actuator removal

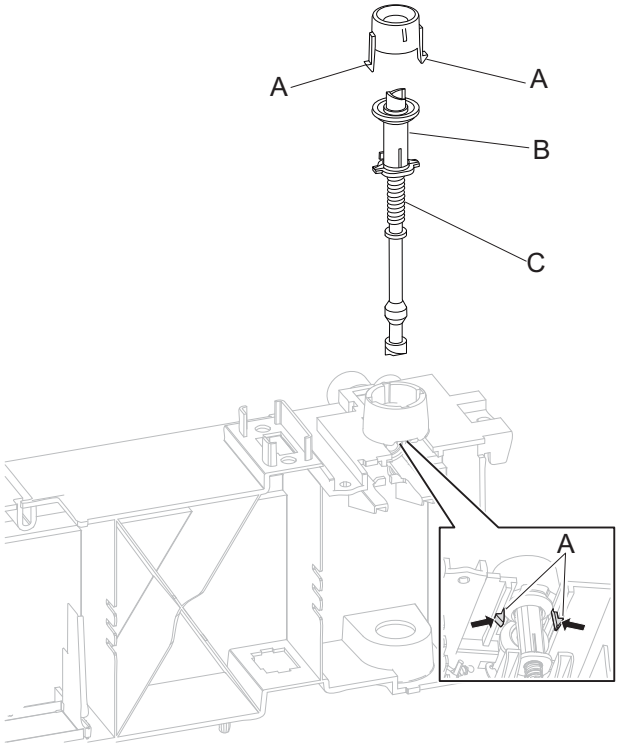
1. Remove the 550-sheet controller card assembly. See **“550-sheet controller card assembly removal” on page 4-198**.
2. Remove the screw (A) securing the media size actuator to the 550-sheet frame.



3. Remove the media size actuator.

550-sheet option drive shaft with spring removal

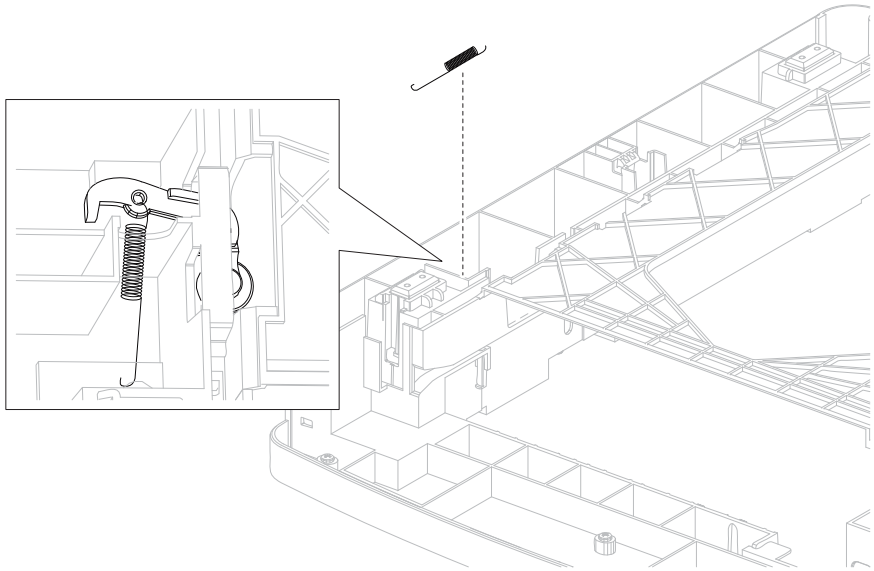
1. Remove the 550-sheet frame assembly. See **“550-sheet frame assembly removal” on page 4-195**.
2. Pinch the two hooks (A) on the cap, and detach it from the 550-sheet frame.
3. Pull the drive roll gear (B), the shaft with spring (C), and the bevel out through the opening.



4. Remove the 550-sheet option drive shaft with spring.

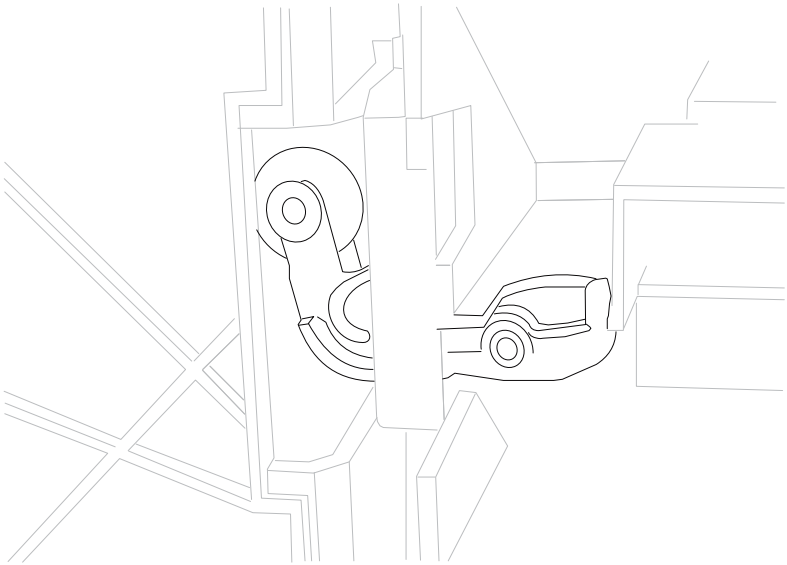
Media tray catch spring removal

1. Remove the 550-sheet frame assembly. See **“550-sheet frame assembly removal” on page 4-195**.
2. Turn the drawer over so that you can access the media tray catch spring.
3. Release the media tray catch spring.



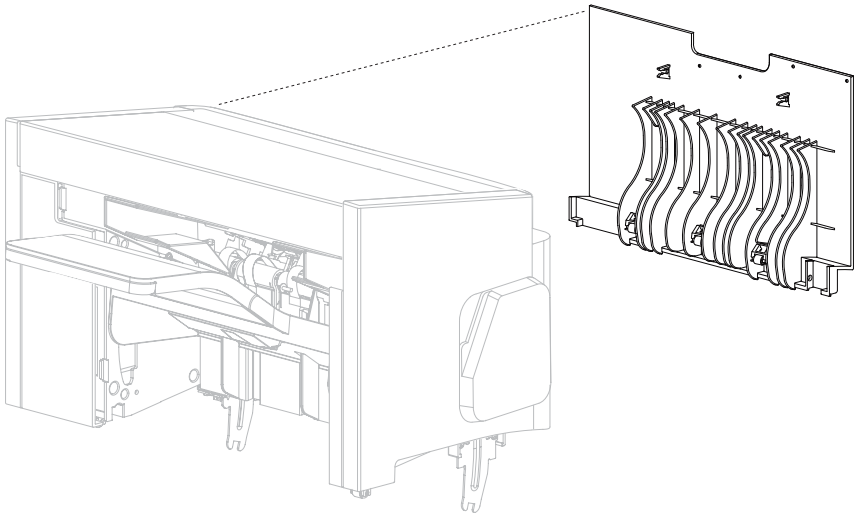
Media tray roller catch assembly removal

1. Remove the media tray catch spring. See **“Media tray catch spring removal” on page 4-202**.
2. Remove the tray roller catch assembly from the drawer.



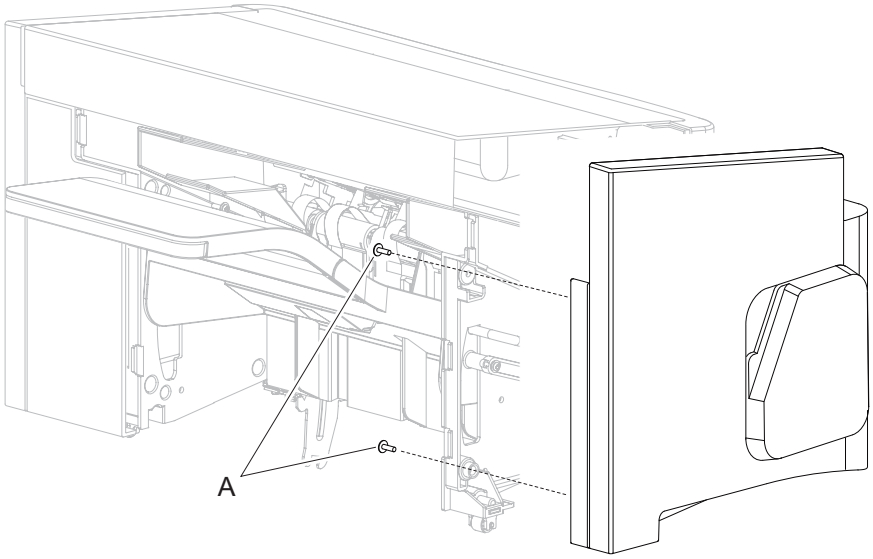
MFP stapler assembly rear door assembly removal

1. Open the rear door assembly.
2. Force the left hinge out of the slot by pushing the door to the right.
3. Once the left hinge has been disengaged, pull the right hinge out.
4. Remove the rear door assembly.



MFP stapler assembly right cover removal

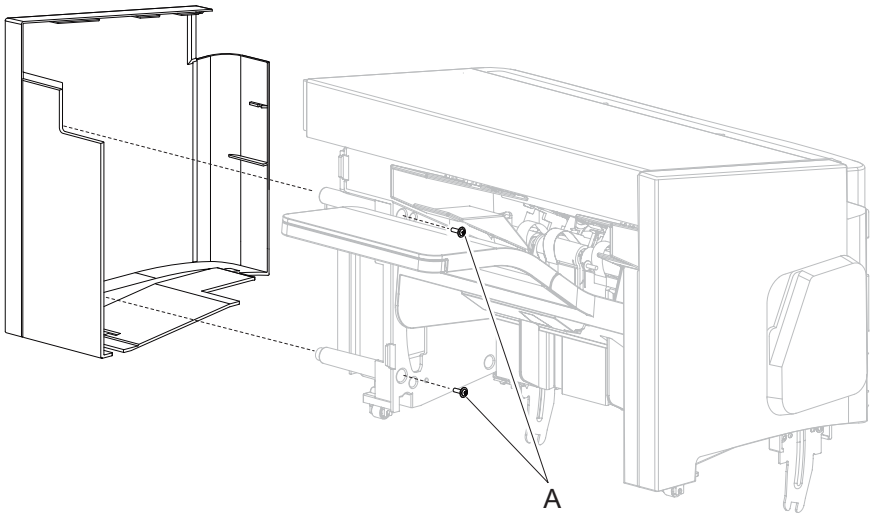
1. Remove the two screws (A) on the inside of the exit bin compartment securing the right cover.



2. Pull out on the front side of the right cover to disengage the tabs.
3. Remove the right cover.

MFP stapler assembly left cover removal

1. Remove the two screws (A) on the inside of the exit bin compartment securing the left cover.

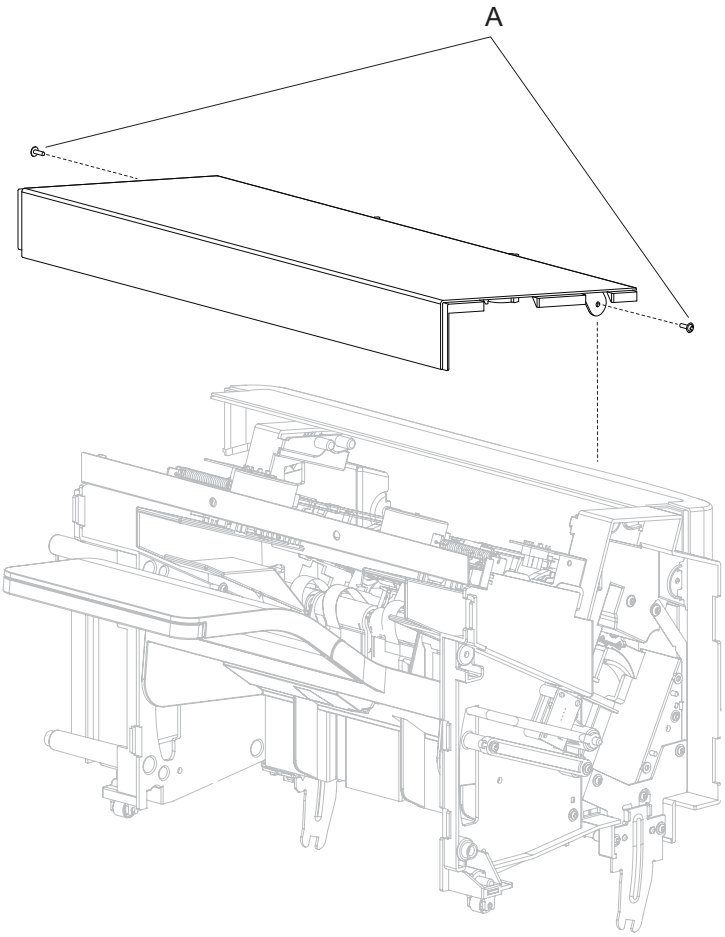


2. Pull out on the front side of the left cover to disengage the tabs.
3. Remove the left cover.

MFP stapler assembly top cover removal

1. Remove the left and right cover. See **"MFP stapler assembly left cover removal" on page 4-204** and **"MFP stapler assembly right cover removal" on page 4-203**.

2. Remove the screw (A) on each side of the top cover.

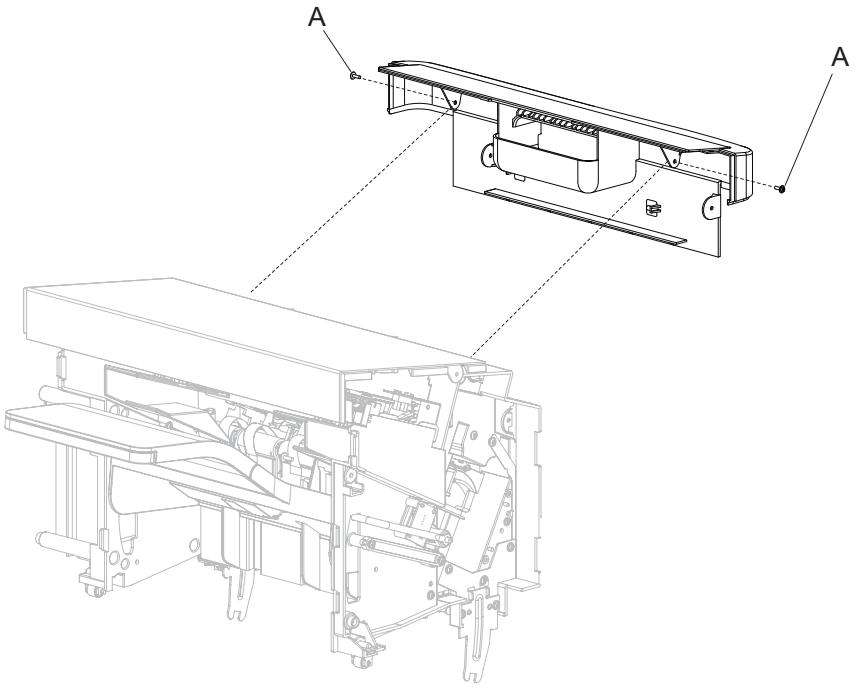


3. Pull up and toward the front to remove the top cover.

MFP stapler assembly handle cover removal

1. Remove the left and right cover. See **"MFP stapler assembly left cover removal" on page 4-204** and **"MFP stapler assembly right cover removal" on page 4-203**.

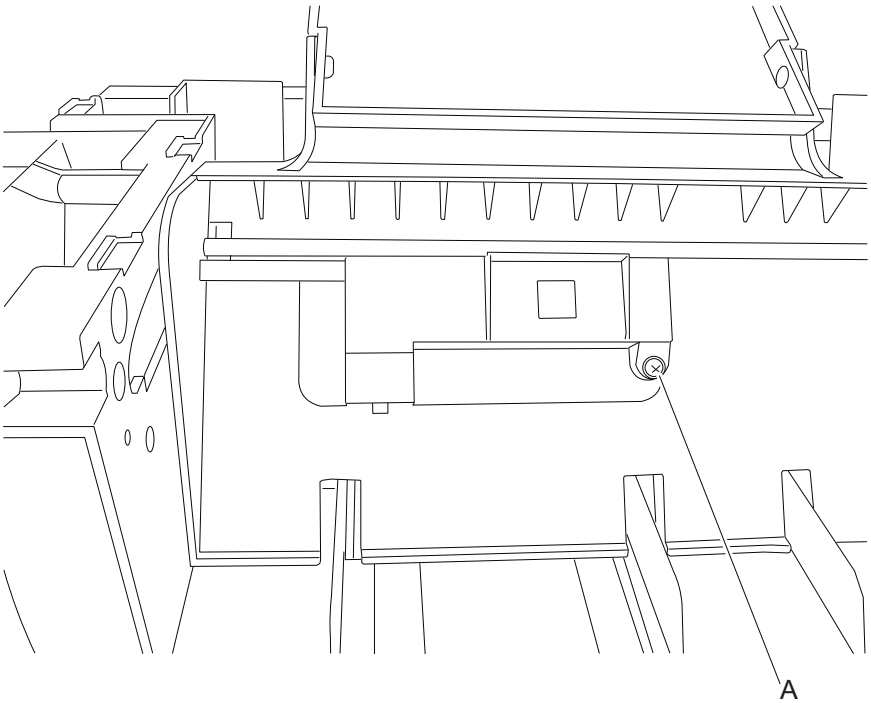
2. Remove the two screws (A) on each side of the.

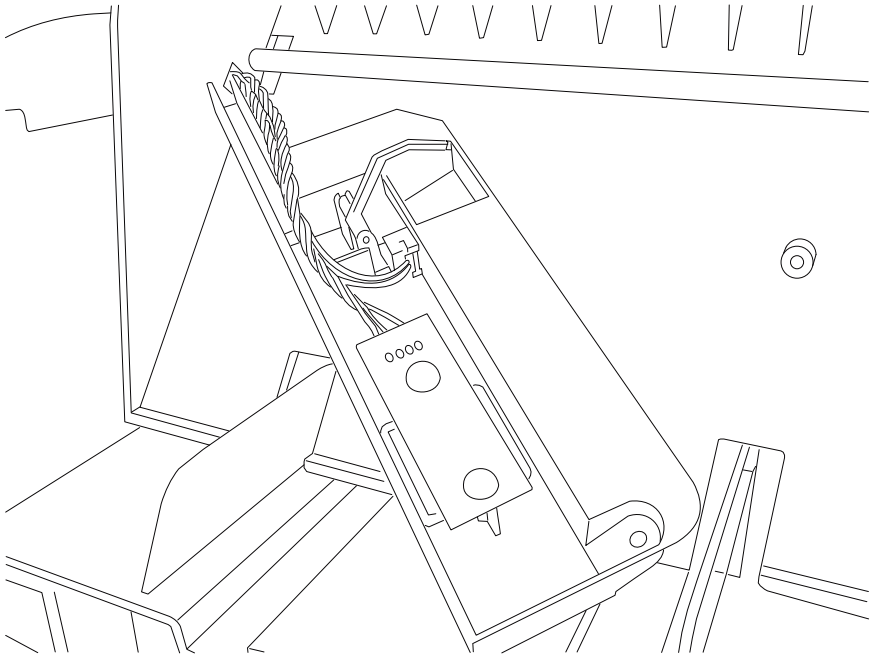


3. Lift up and to the rear to remove the cover.

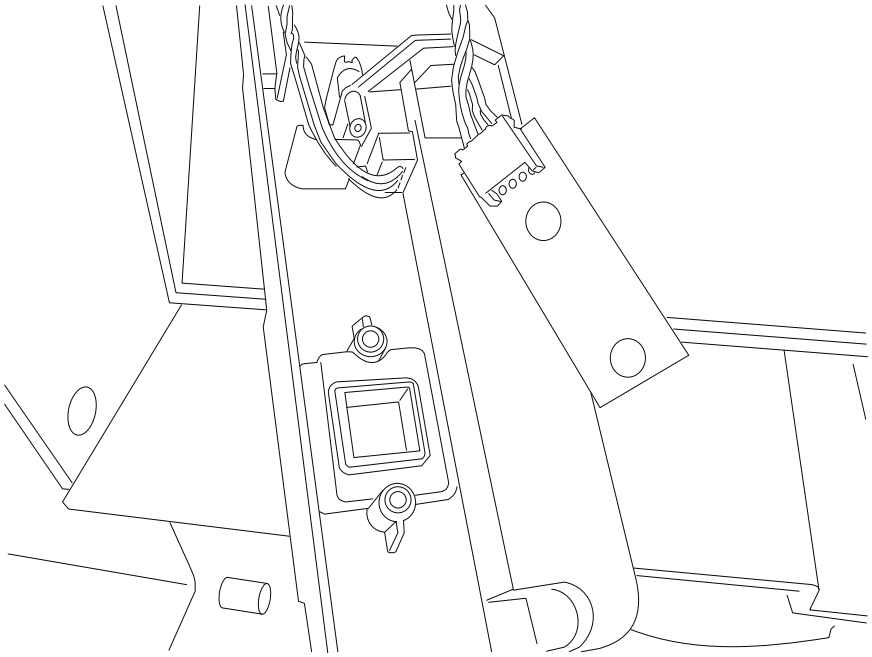
MFP stapler assembly LED sensor cover removal

1. Remove the screw (A) securing the LED sensor cover to the underside of the output bin.



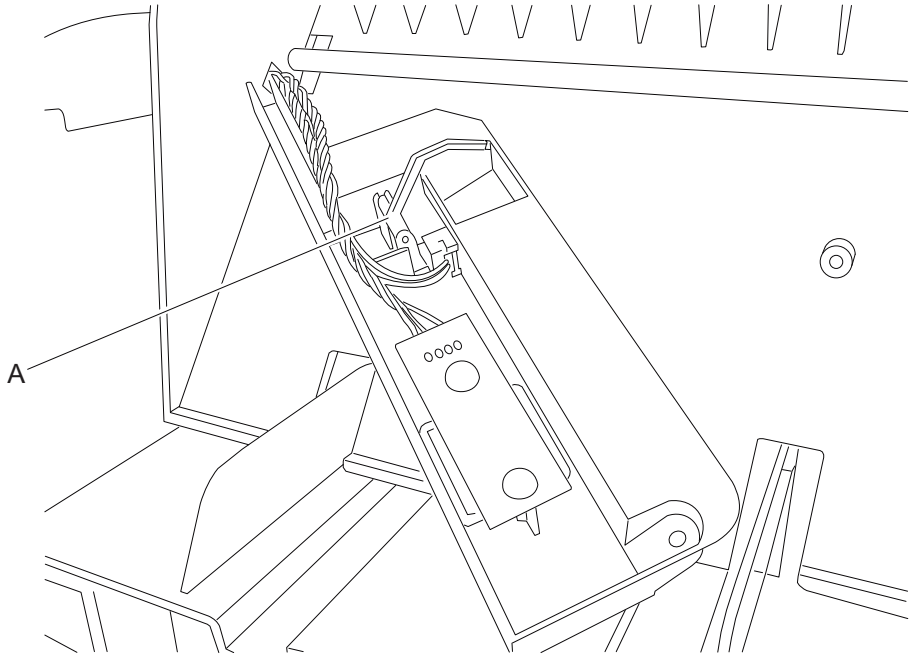


2. Remove the standard output bin LED. See **"MFP stapler assembly standard output bin LED and LED clear lens removal" on page 4-208**.
3. Remove the sensor (finisher media bin present). See **"MFP stapler assembly sensor (finisher media bin present) removal" on page 4-208**.
4. Remove the LED sensor cover.



MFP stapler assembly sensor (finisher media bin present) removal

1. Remove the LED sensor cover. See **“MFP stapler assembly LED sensor cover removal” on page 4-206**.
2. Using a flat-blade screwdriver, release the tabs (A) on the sensor and remove it from the sensor cover.

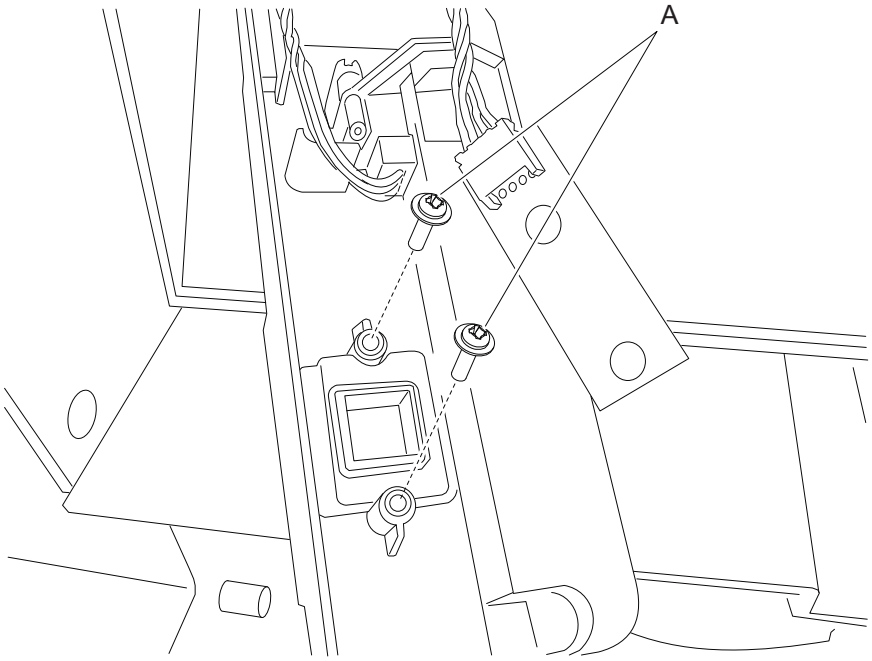


3. Remove the harness connected to the media bin present sensor.
4. Remove the sensor (finisher bin media present).

MFP stapler assembly standard output bin LED and LED clear lens removal

1. Remove the LED sensor cover. See **“MFP stapler assembly LED sensor cover removal” on page 4-206**.

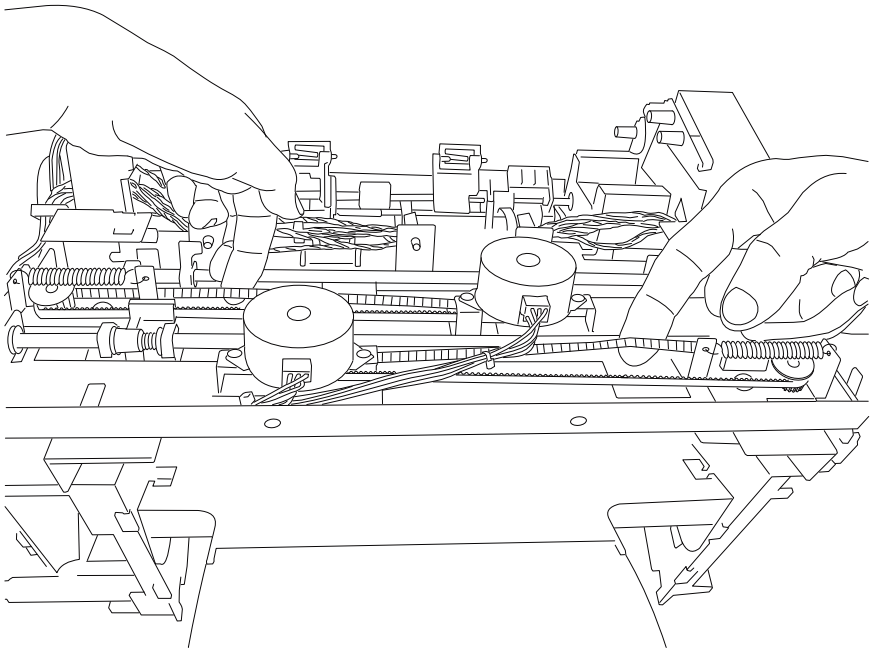
2. Remove the two screws (A) securing the LED to the cover.



3. Remove the LED and disconnect the harness.
4. Remove the LED clear lens.

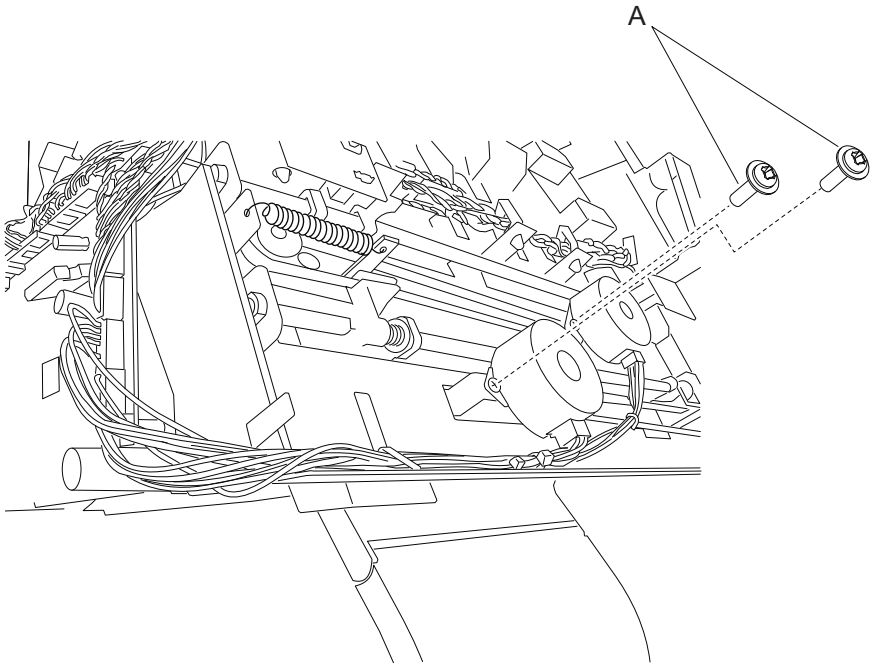
MFP stapler assembly tamper drive belt removal

1. Remove the tamper recoil spring. See **"MFP stapler assembly tamper drive belt removal" on page 4-209**.
2. Pull the belt out the tamper belt holder and remove the belt from the pulley.



MFP stapler assembly tamper drive motor assembly removal

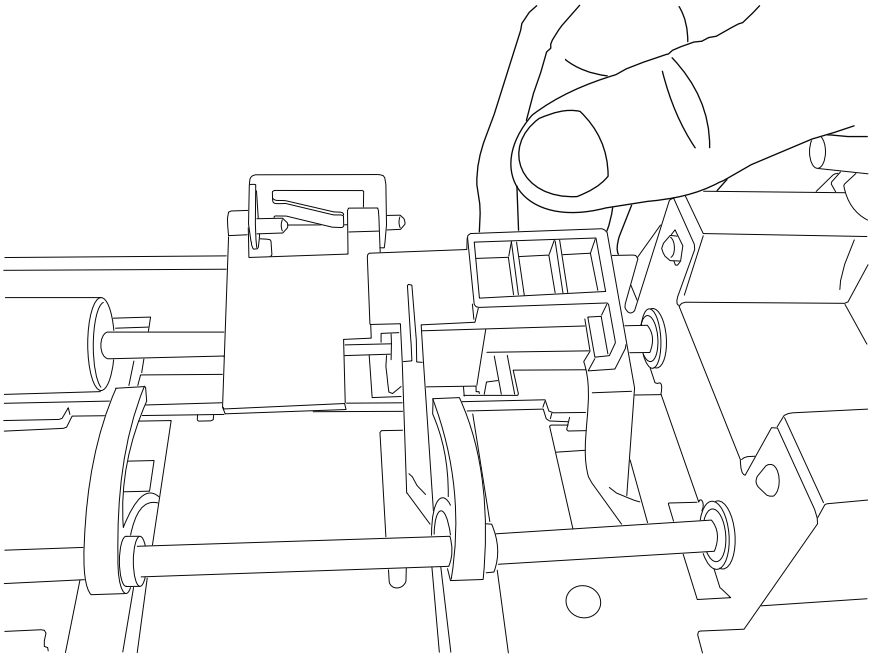
1. Remove the top cover. See **"MFP stapler assembly top cover removal" on page 4-204**.
2. Pull slack in the tamper drive belt and remove the belt from the tamper drive belt pulley.
3. Disconnect the tamper driver motor harness from the controller card.
4. Remove the two screws (A) securing the tamper drive motor assembly to the tamper frame.



5. Remove the tamper drive motor assembly.

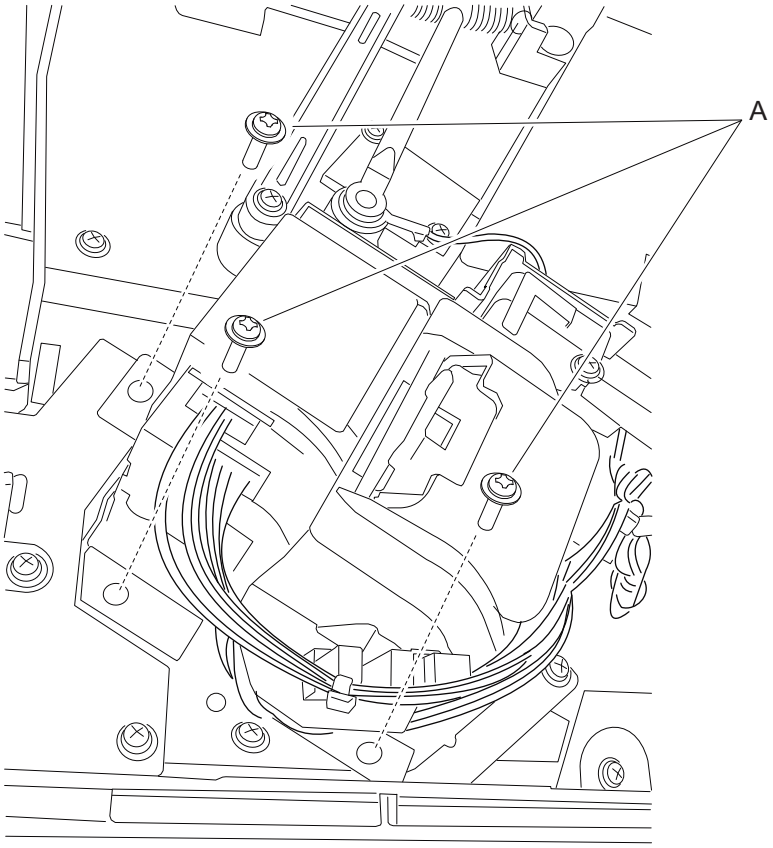
MFP stapler assembly media stack flap and media stack flap actuator removal

1. Remove the handle cover. See **"MFP stapler assembly handle cover removal" on page 4-205**.
2. Release the locking tab and slide the media stack flap actuator to the right and remove.



MFP stapler assembly stapler unit assembly removal

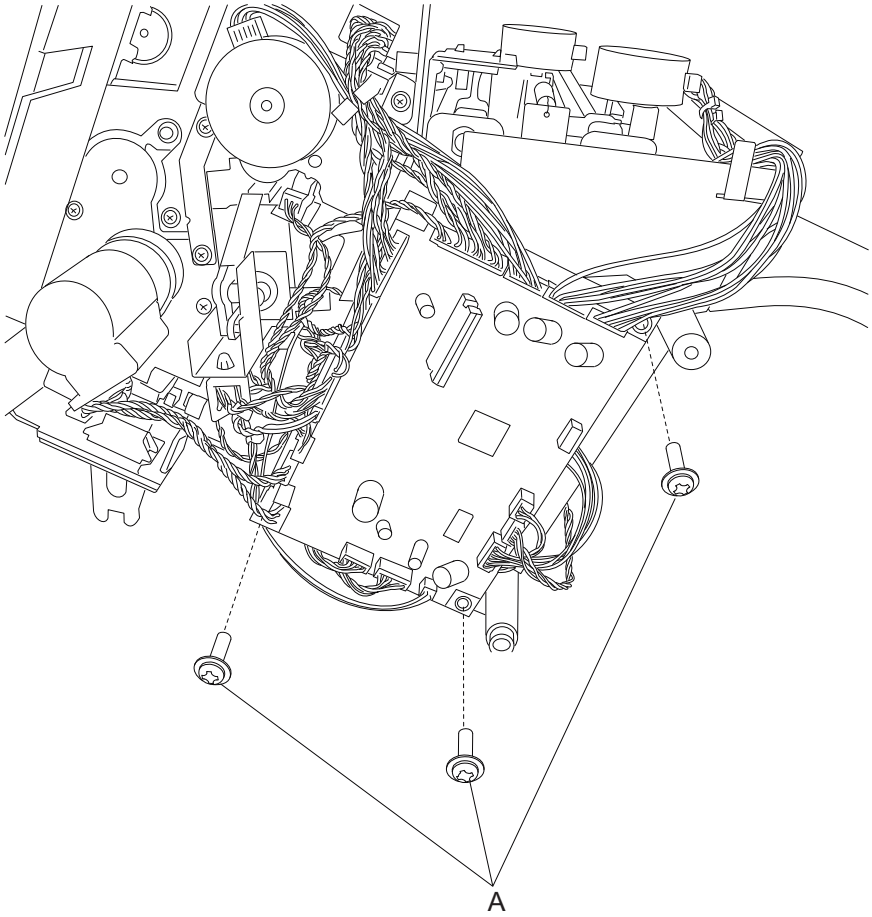
1. Remove the right cover. See **“MFP stapler assembly right cover removal” on page 4-203**.
2. Remove the four cable harnesses attached to the stapler unit assembly.
3. Remove the three screws (A) securing the stapler unit assembly.



4. Remove the stapler unit assembly.

Stapler/stacker controller card assembly removal

1. Remove the left left cover. See **"MFP stapler assembly left cover removal" on page 4-204**.
2. Disconnect all harnesses to the controller card.
3. Remove the three screws (A) securing the stapler/stacker controller card assembly.

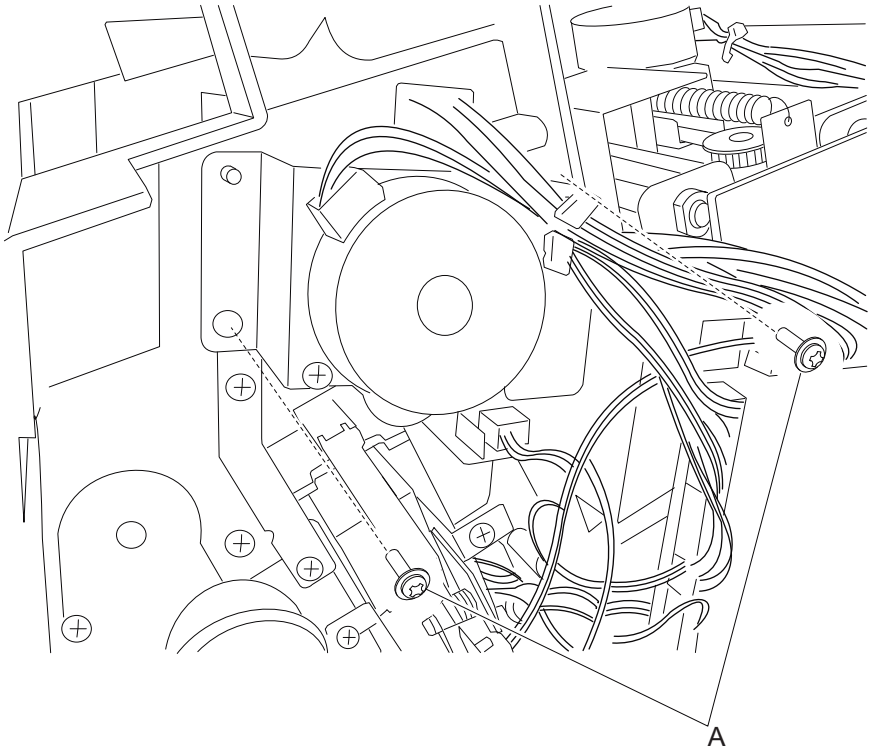


4. Remove the stapler/stacker controller card assembly.

MFP stapler assembly paddle drive motor assembly removal

1. Remove the left left cover. See **"MFP stapler assembly left cover removal" on page 4-204**.
2. Disconnect the paddle motor harness from the controller card.
3. Remove the cable from the harness clip.

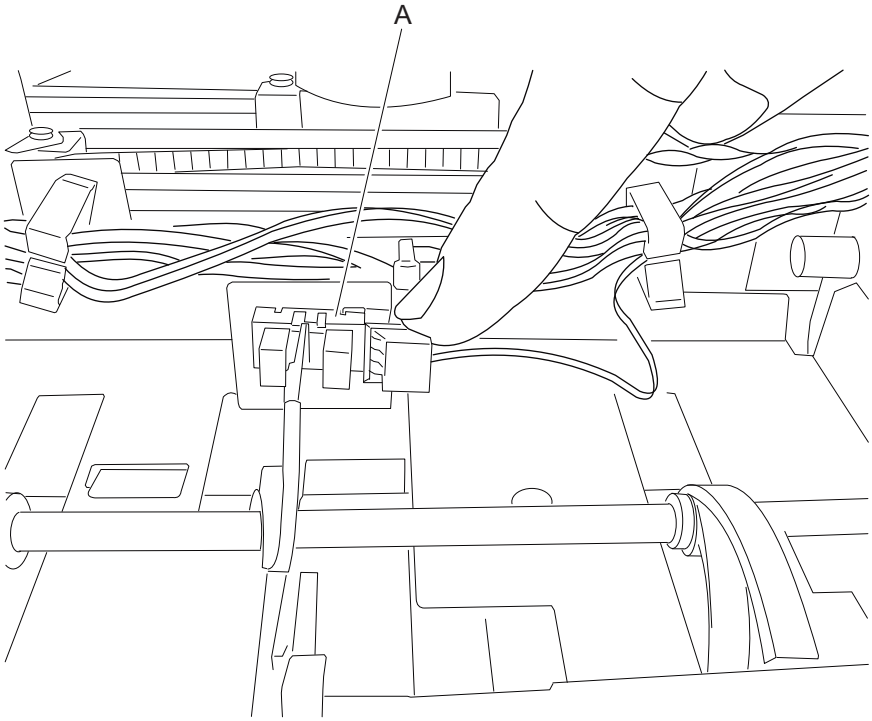
4. Remove the two screws (A) securing the two paddle drive motor assemblies.



5. Remove the paddle drive motor assembly.

MFP stapler assembly sensor (media stack) removal

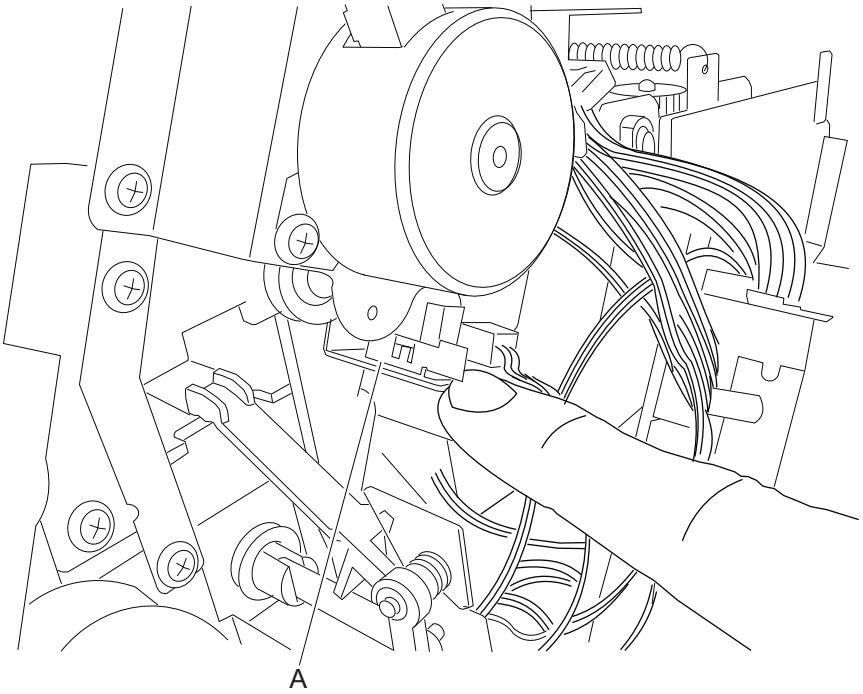
1. Remove the top cover. See **"MFP stapler assembly top cover removal" on page 4-204**.
2. Disconnect the harness to the sensor (media stack).
3. Using your fingers, pinch tab (A) securing the sensor (media stack) and remove.



MFP stapler assembly sensor (paddle HP) removal

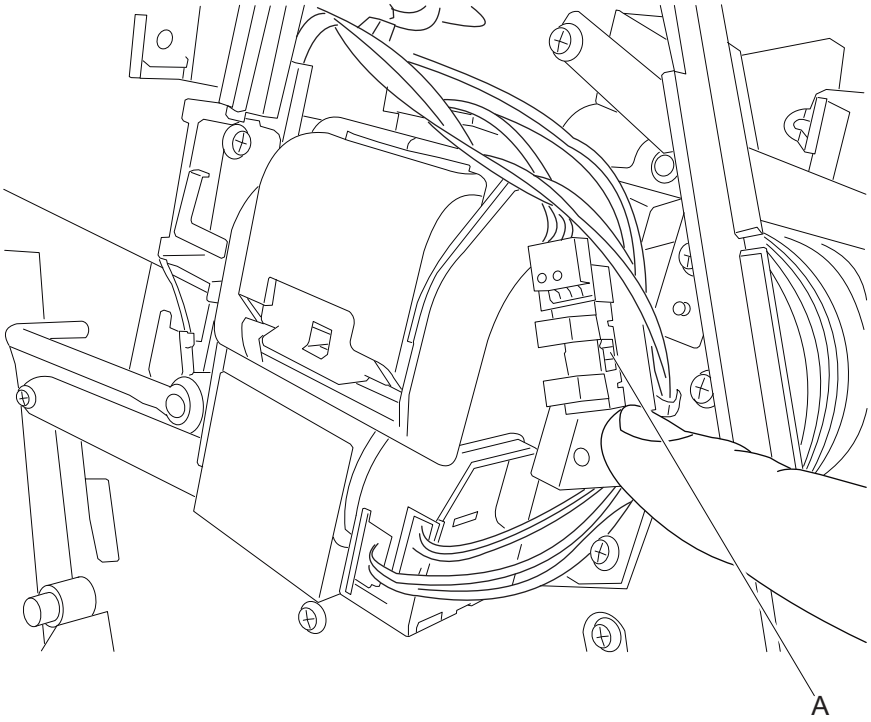
1. Remove the left cover. See **"MFP stapler assembly left cover removal" on page 4-204**.
2. Disconnect the harness to the sensor (paddle home position).

3. Using your fingers, pinch tab (A) securing the sensor (paddle home position) and remove.



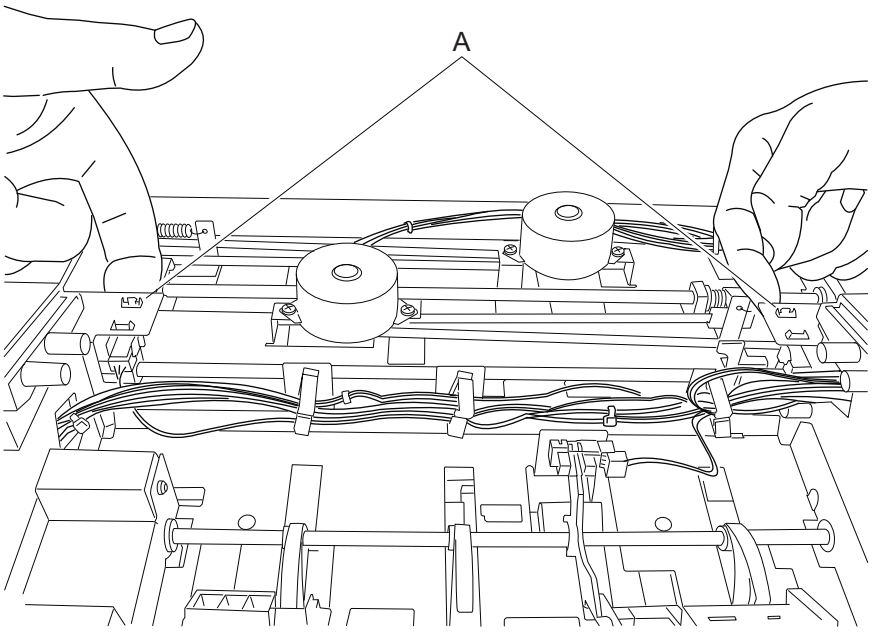
MFP stapler assembly sensor (stapler access door interlock) removal

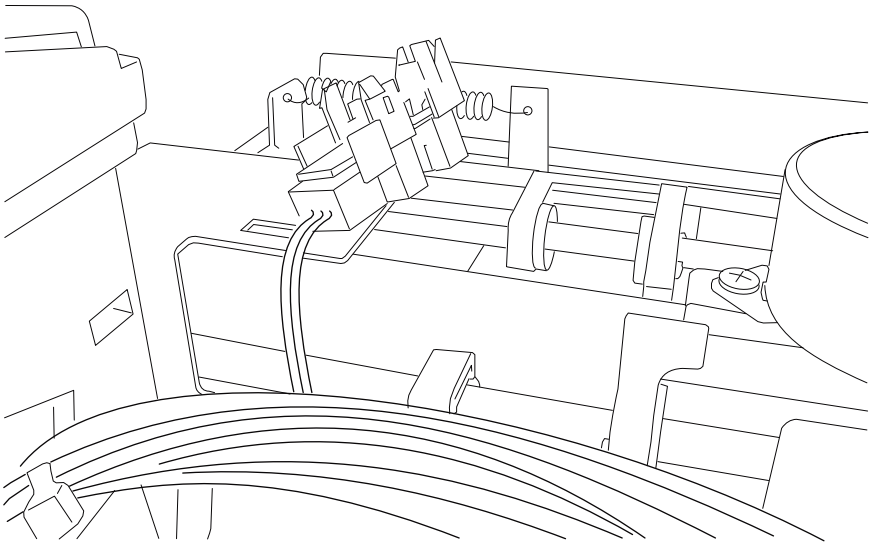
1. Remove the right cover. See **"MFP stapler assembly right cover removal" on page 4-203**.
2. Disconnect the harness to the sensor (stapler access door interlock).
3. Using your fingers, pinch tab (A) securing the sensor (stapler access door interlock) and remove.



MFP stapler assembly sensor (tamper HP left and right) removal

1. Remove the top cover. See **"MFP stapler assembly top cover removal" on page 4-204**.
2. Disconnect the harness to the sensor (tamper HP left and right).
3. Using your fingers, pinch the tabs (A) securing the staple finisher sensor (tamper HP left and right) and remove.

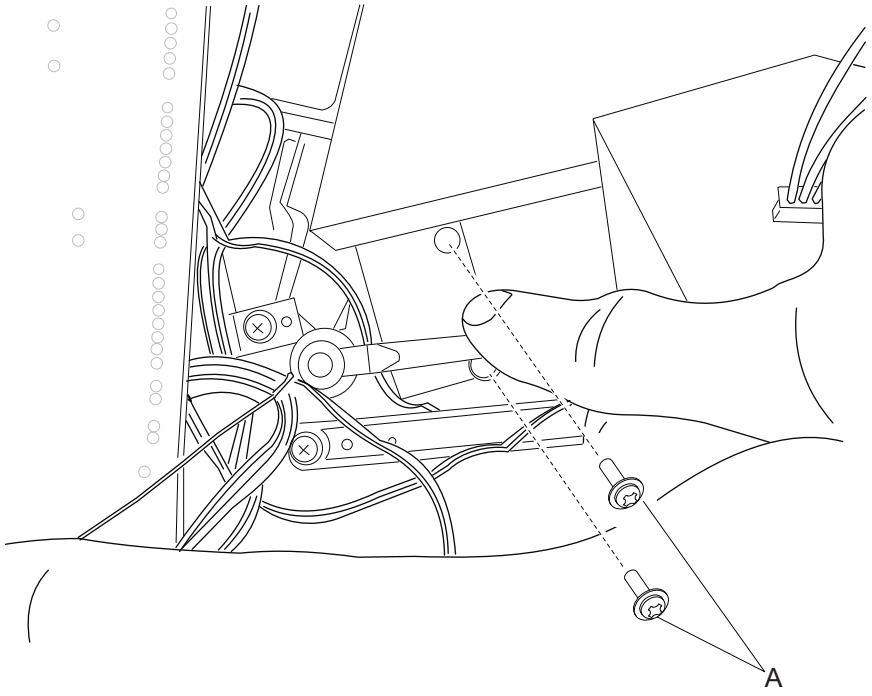




MFP stapler assembly sensor (bin full send) removal

1. Remove the stapler/stacker controller card assembly. See **"Stapler/stacker controller card assembly removal" on page 4-213**.

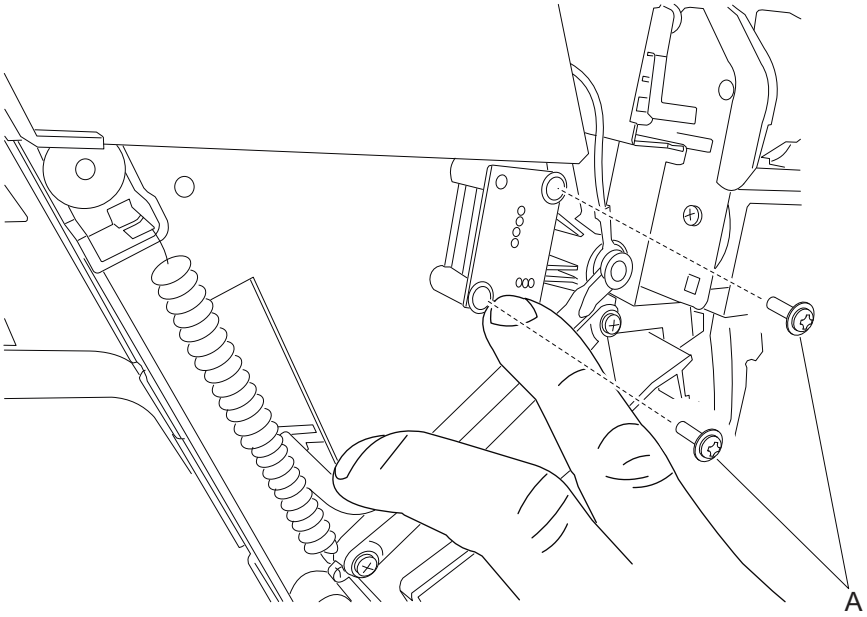
2. Remove the two screws (A) securing the staple finisher sensor (bin full send).



3. Disconnect the harness and remove.

MFP stapler assembly sensor (bin full receive) removal

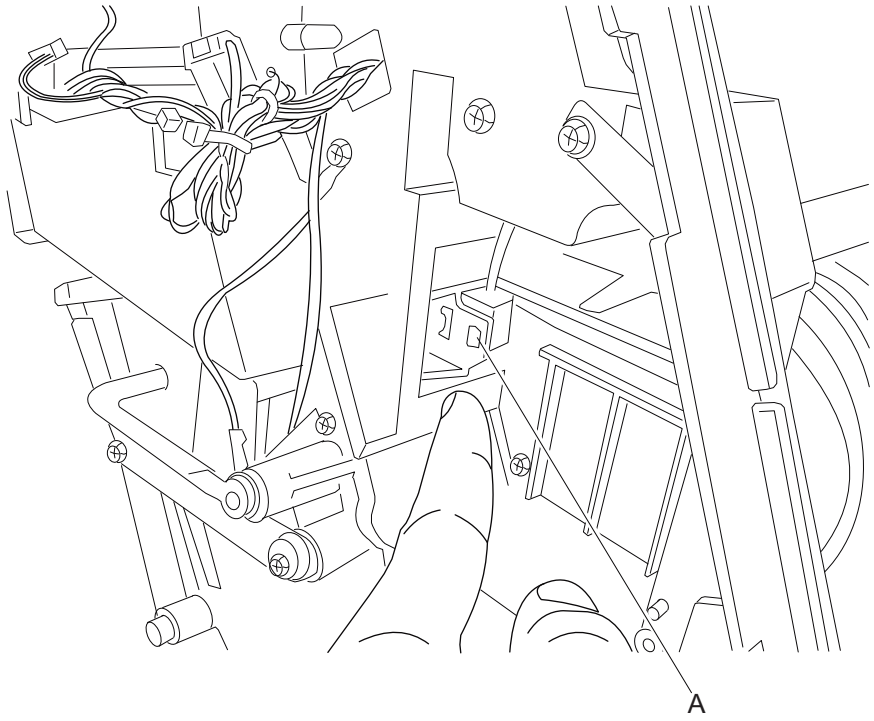
1. Remove the right cover. See **"MFP stapler assembly right cover removal" on page 4-203**.
2. Remove the two screws (A) securing the sensor (bin full receive).



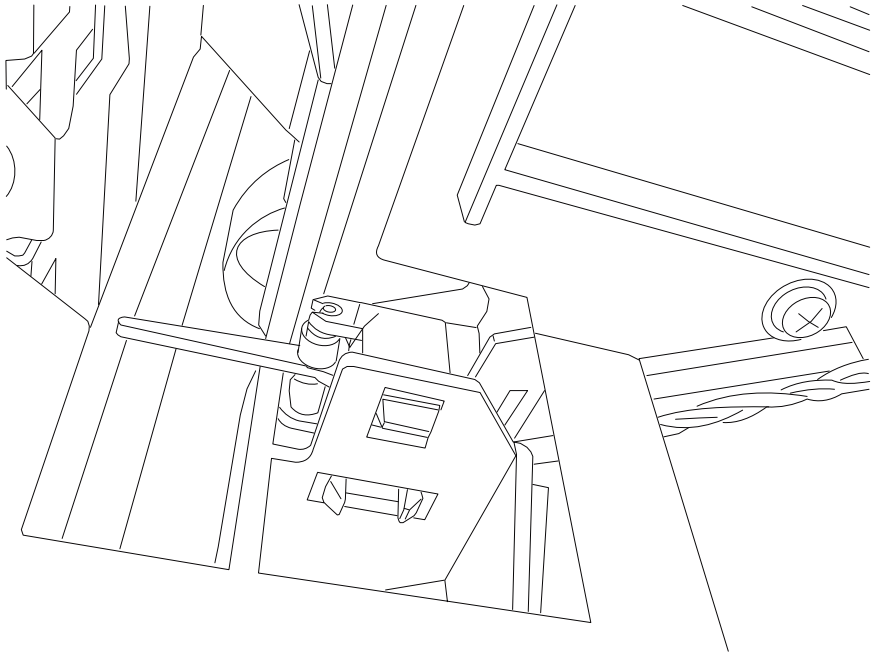
3. Disconnect the harness and remove.

MFP stapler assembly sensor (media in stapler) removal

1. Remove the stapler unit assembly from the . See **"MFP stapler assembly stapler unit assembly removal" on page 4-212**.
2. Using a flat-blade screwdriver, release the tabs (A) securing the sensor.



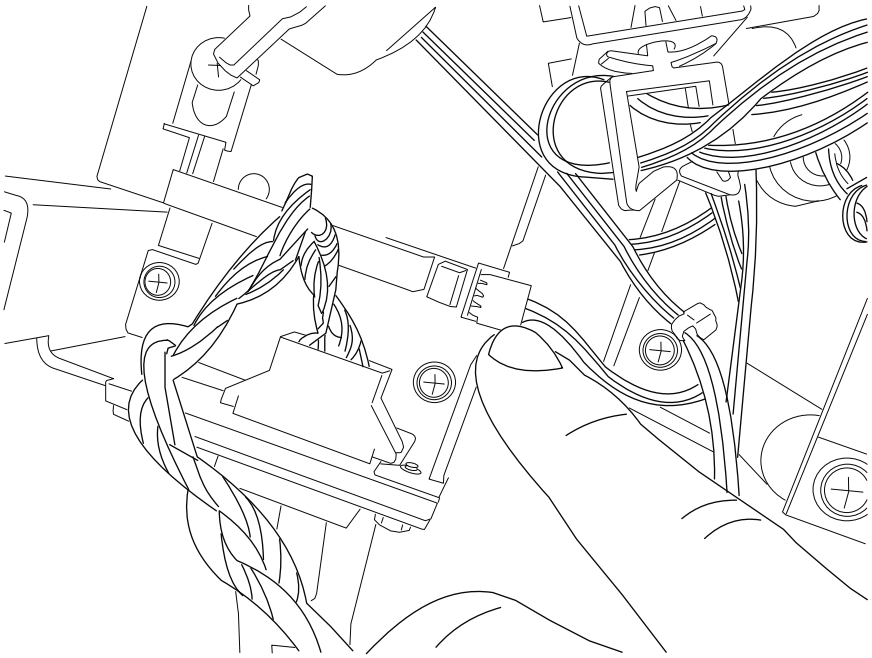
3. Using needlenose pliers, carefully grip the sensor and pull it out and disconnect the harness.



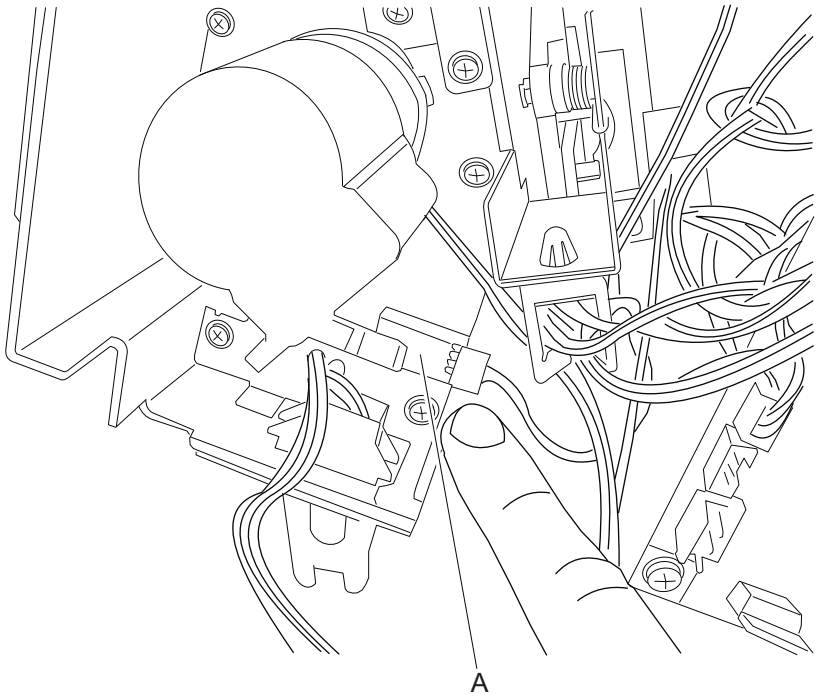
Replacement Notes: Using needlenose pliers, place the rear most tab in the sensor bracket first. Then push on the rear face of the sensor until the other two tabs snap into place.

MFP stapler assembly sensor (deflector HP) removal

1. Remove the left cover. See **“MFP stapler assembly left cover removal” on page 4-204**.
2. Disconnect the harness to the sensor (deflector HP).



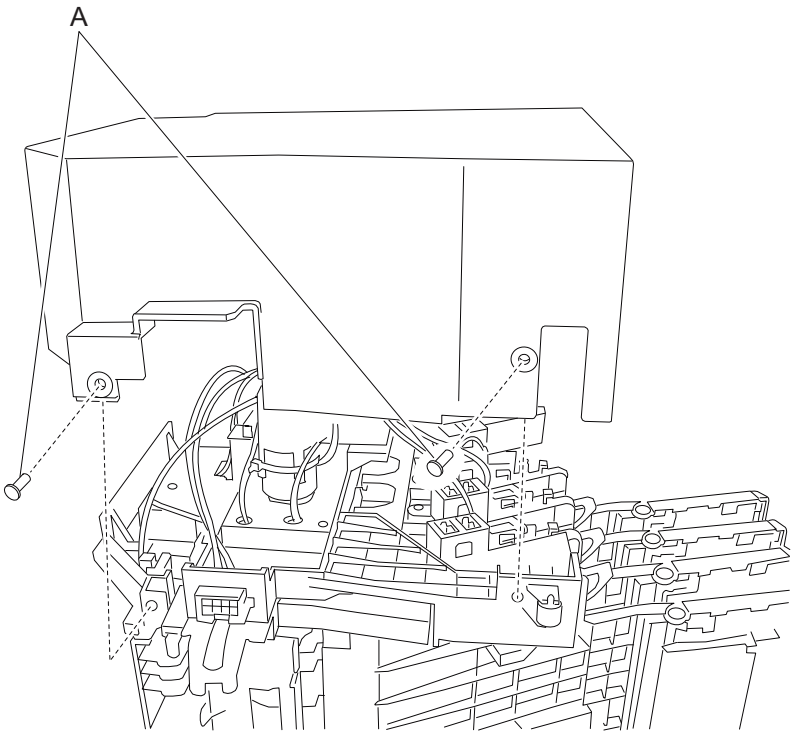
3. Release the tabs (A) securing the sensor to the unit.



Note: The tabs may be difficult to access. The use of a spring hook or flat-blade screwdriver may be necessary to release the tabs.

4-bin mailbox assembly left cover removal

1. Place the 4-bin mailbox assembly on its side.
2. Remove the two screws (A) on the underside of the 4-bin mailbox assembly securing the left cover.



3. Using your finger, pull up on the top surface of the left cover while simultaneously pulling out, and remove.

4-bin mailbox assembly controller card assembly removal

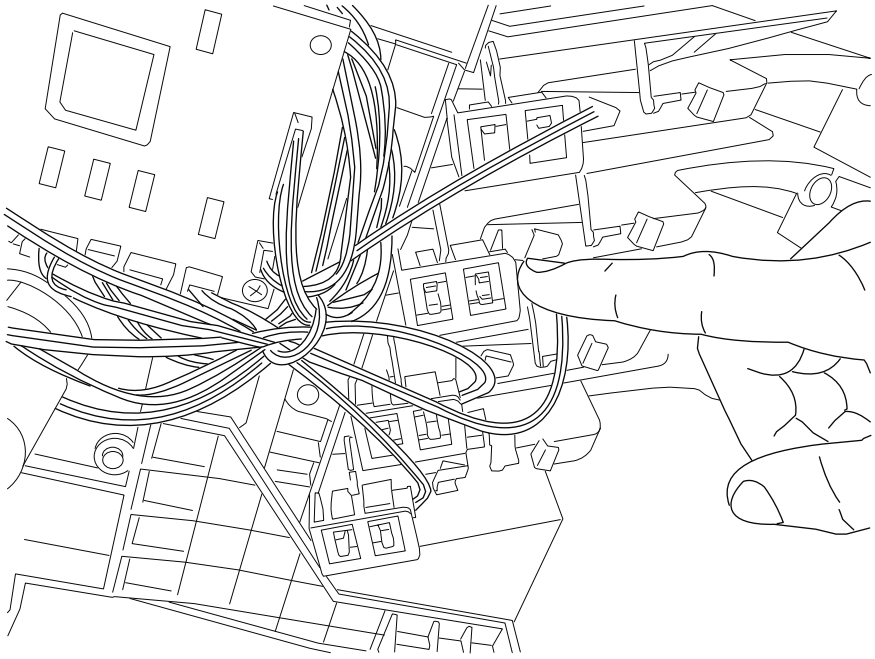
1. Remove the 4-bin mailbox assembly left cover. See **"4-bin mailbox assembly left cover removal" on page 4-221**.
2. Disconnect all harnesses from the controller card.

Note: Label each deflector gate solenoid cable for correct replacement upon installation.

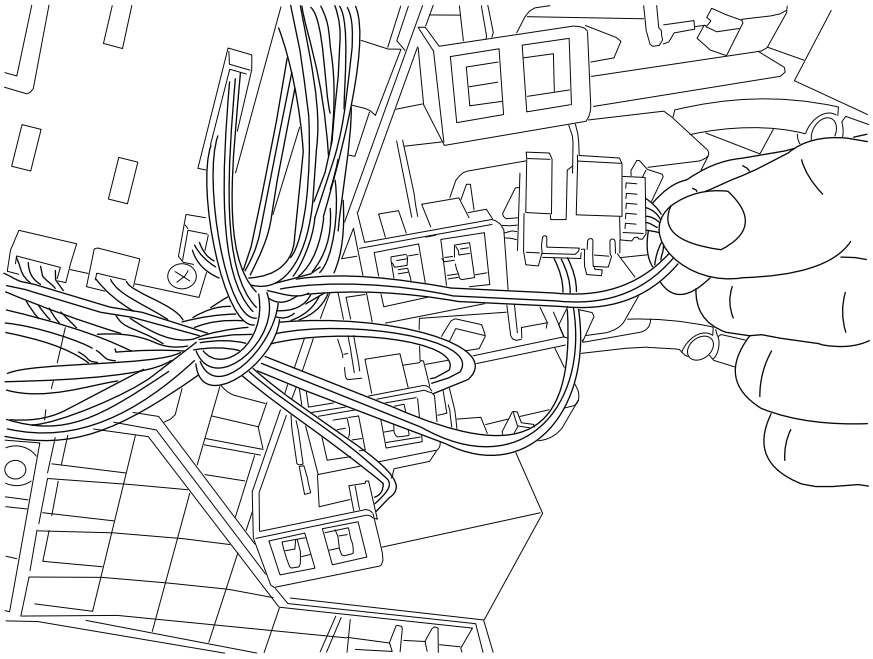
3. Remove the two screws (A) securing the controller card to the 4-bin mailbox assembly and remove.

4-bin mailbox assembly sensor (media bin full) removal

1. Remove the 4-bin mailbox assembly left cover. See **“4-bin mailbox assembly left cover removal” on page 4-221**.
2. Disconnect the harness to the sensor (media bin full).

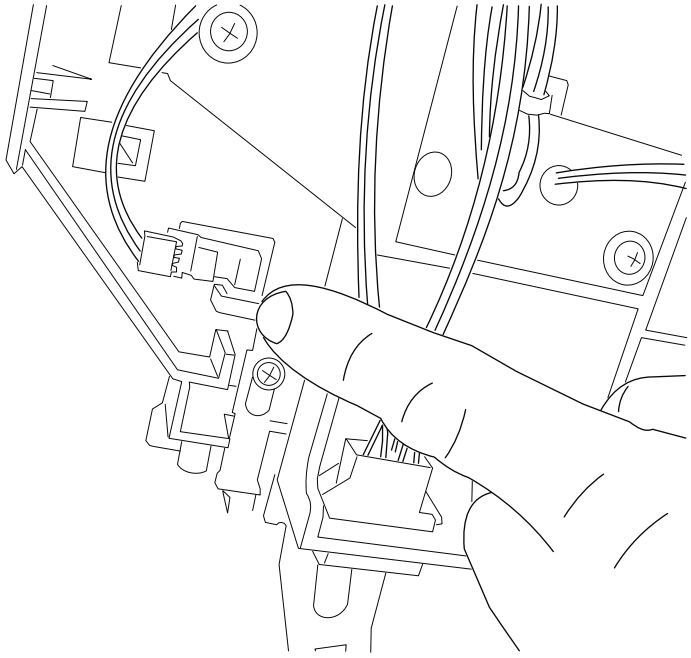


3. Pinch the tabs securing the sensor (media bin full) to the media tray and remove.



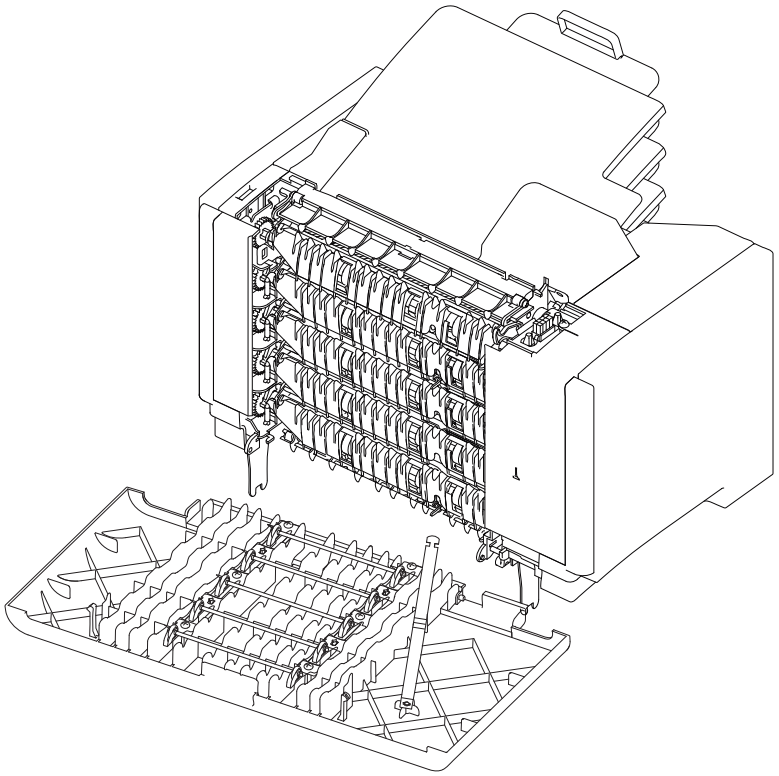
4-bin mailbox assembly sensor (deflector gate HP) removal

1. Remove the 4-bin mailbox assembly left cover. See **"4-bin mailbox assembly left cover removal" on page 4-221**.
2. Remove the 4-bin mailbox assembly rear door assembly. See **"4-bin mailbox assembly rear door assembly removal" on page 4-224**.
3. Remove the 4-bin mailbox assembly left rear inner cover.
4. Release the tabs securing the sensor (deflector gate HP) and remove the sensor from the 4-bin mailbox assembly.
5. Disconnect the harness from the sensor (deflector gate HP).



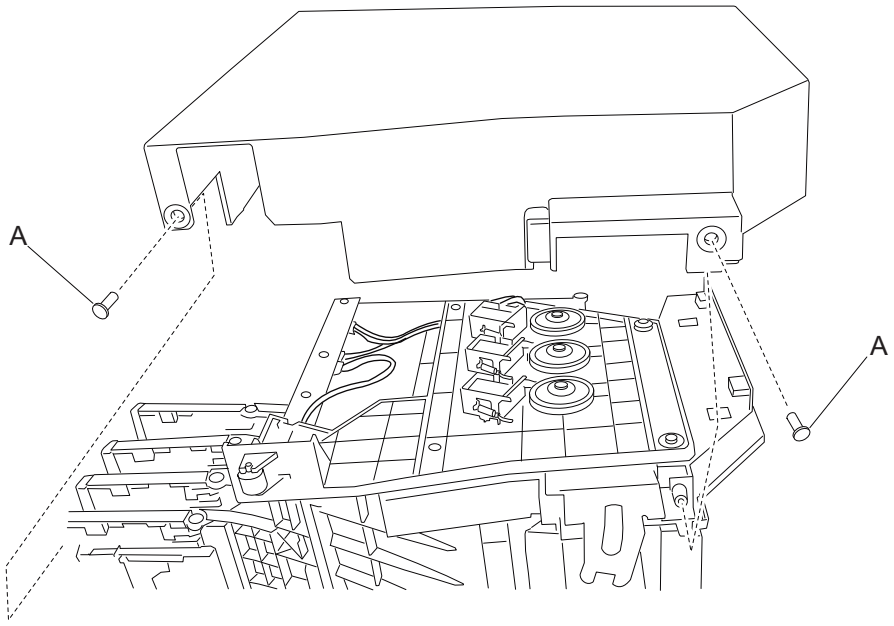
4-bin mailbox assembly rear door assembly removal

1. Open the rear door.
2. Gently spread each side of the 4-bin mailbox assembly until the rear door hinge is free to be removed.
3. Remove the rear door assembly.



4-bin mailbox assembly right cover removal

1. Place the 4-bin mailbox assembly on its side.
2. Remove the two screws (A) from the bottom side of the right cover securing cover in place.

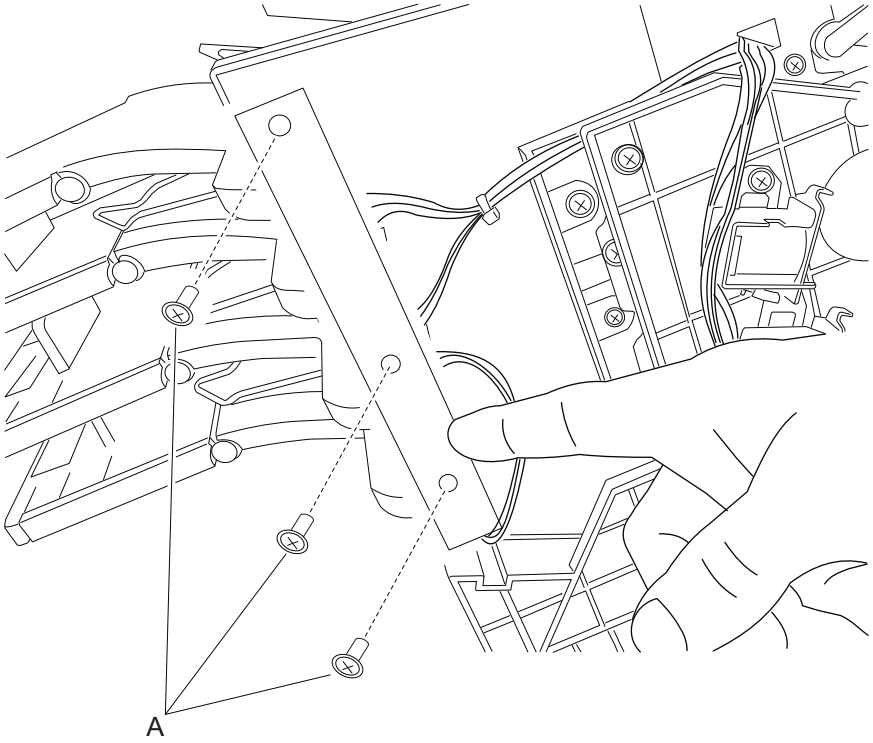


3. Using your fingers, pull up on the top of the right cover and pull out simultaneously to remove.

4-bin mailbox assembly LED card assembly removal

1. Remove the 4-bin mailbox assembly right cover. See **"4-bin mailbox assembly right cover removal" on page 4-225**.
2. Disconnect the 3 wire harnesses attached to the LED card assembly.

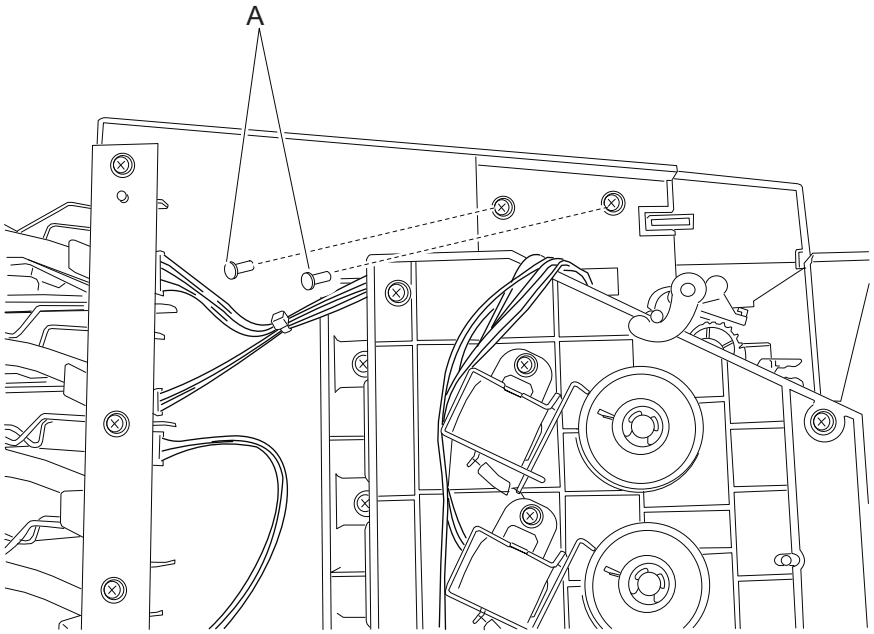
3. Remove the three screws (A) securing the LED card assembly to the 4-bin mailbox assembly.

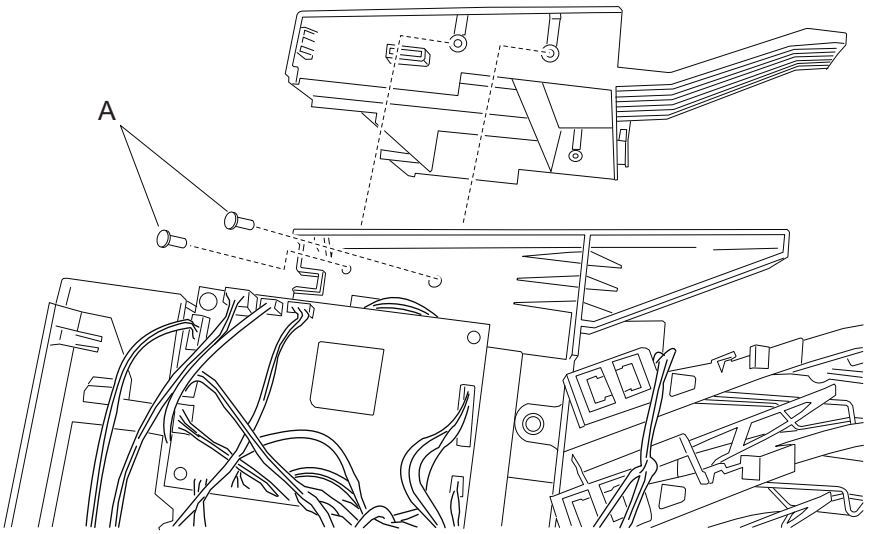


4. Remove the 4-bin mailbox assembly LED card assembly.

4-bin mailbox assembly top cover removal

1. Remove the 4-bin mailbox assembly left cover. See **"4-bin mailbox assembly left cover removal" on page 4-221**.
2. Remove the right cover. See **"4-bin mailbox assembly right cover removal" on page 4-225**.
3. Remove the four screws (A) on each side of the top cover securing it to the 4-bin mailbox assembly.

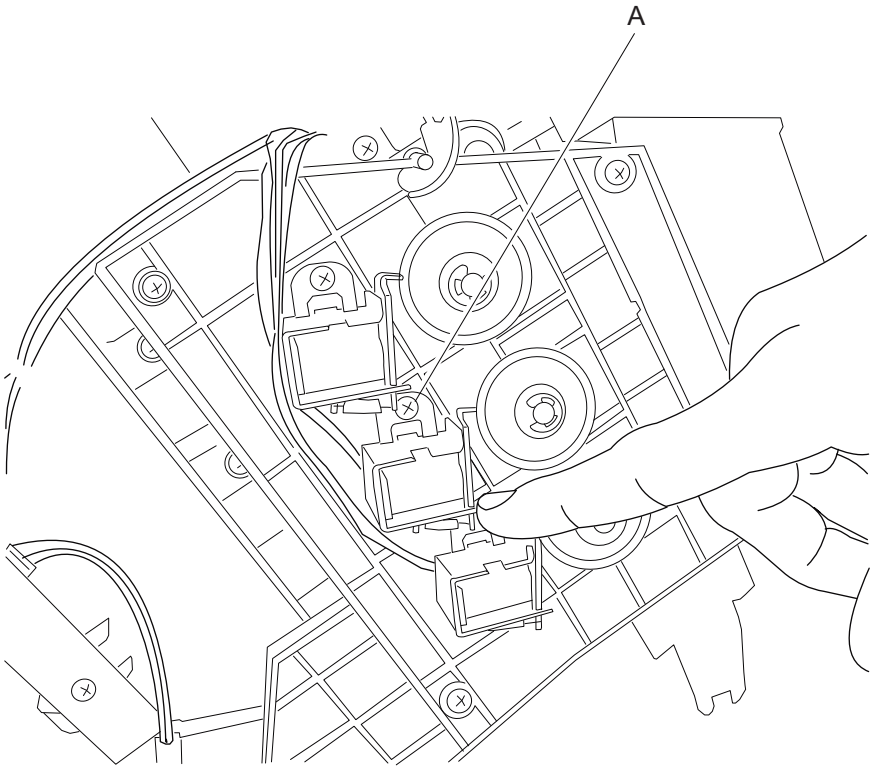




4. Slide the top cover towards the rear and remove.

4-bin mailbox assembly deflector gate solenoid removal

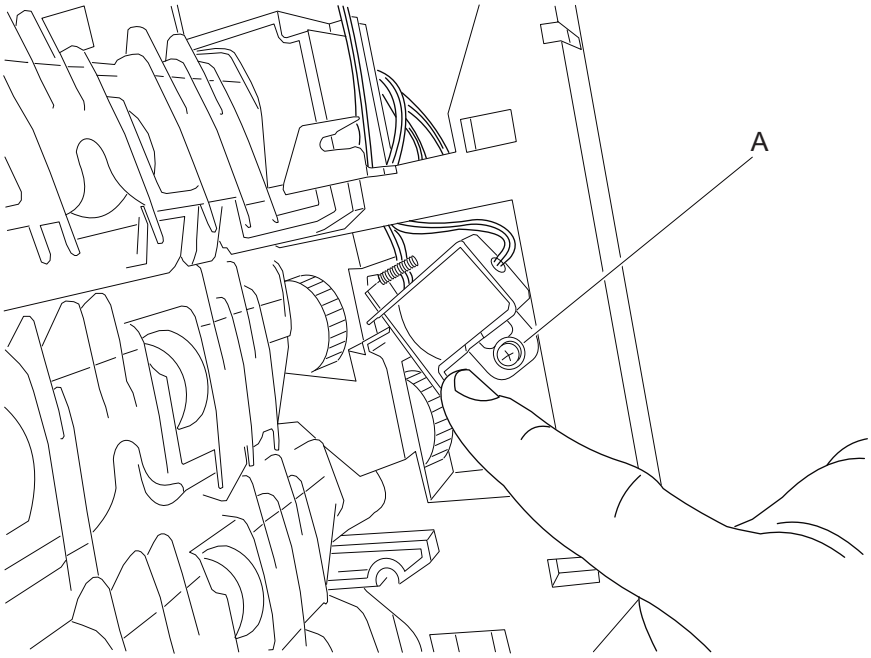
1. Remove the 4-bin mailbox assembly top cover. See **"4-bin mailbox assembly top cover removal" on page 4-226**.
2. Remove the screw (A) securing the deflector gate solenoid to the 4-bin mailbox assembly.



3. Carefully unroute the deflector gate solenoid cables from the cable clips under the top cover.
4. Disconnect the appropriate deflector gate solenoid cable from the controller card.
5. Pull the deflector gate solenoid and harness from the 4-bin mailbox assembly.

4-bin mailbox assembly transport solenoid removal

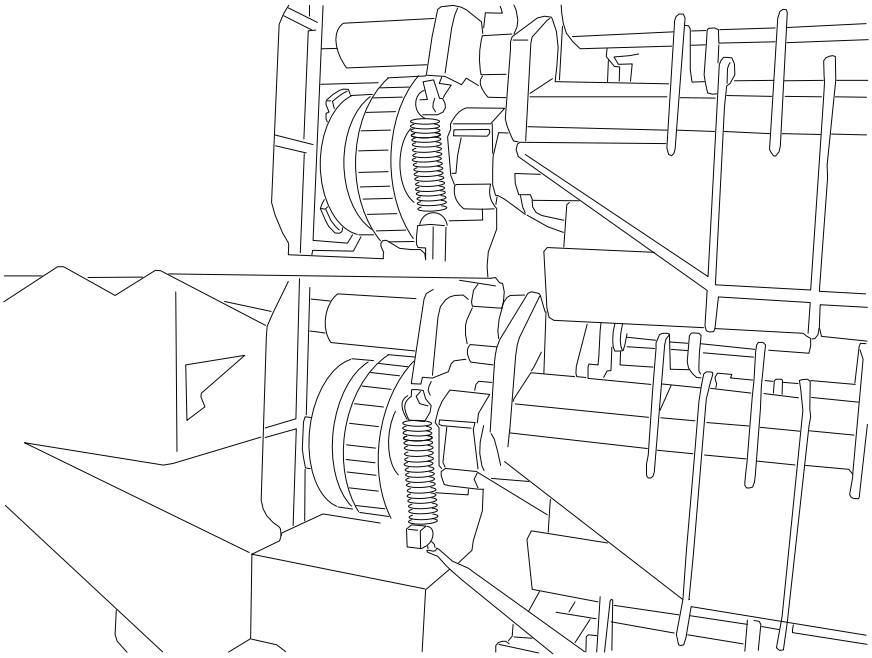
1. Remove the 4-bin mailbox assembly left cover. See **“4-bin mailbox assembly left cover removal” on page 4-221**.
2. Remove the left rear inner cover.
3. Disconnect the transport solenoid cable from the controller card.
4. Remove the screw (A) securing the transport solenoid to the 4-bin mailbox assembly.

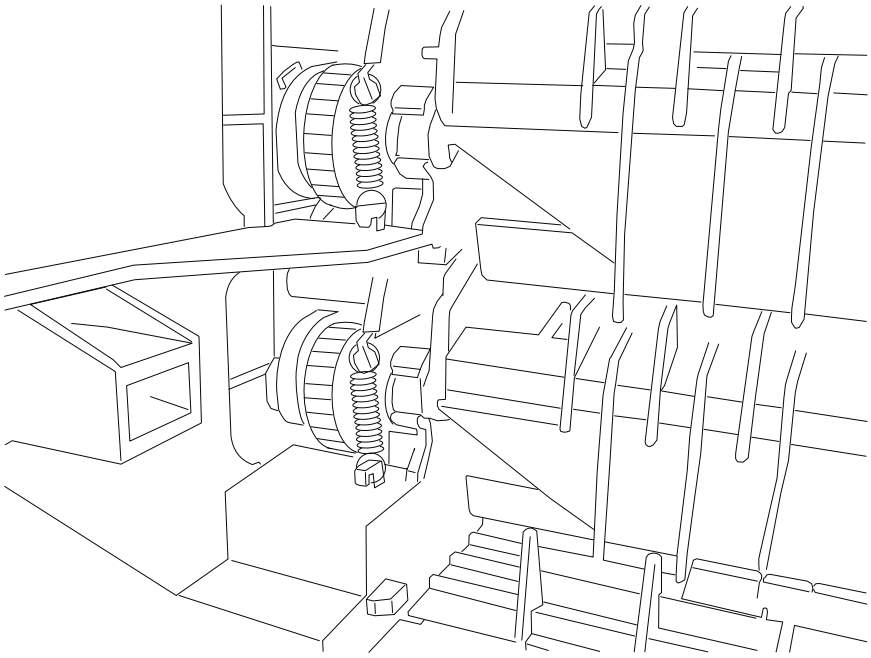


5. Remove the transport solenoid and pull the cable through the left side frame.

4-bin mailbox assembly spring removal

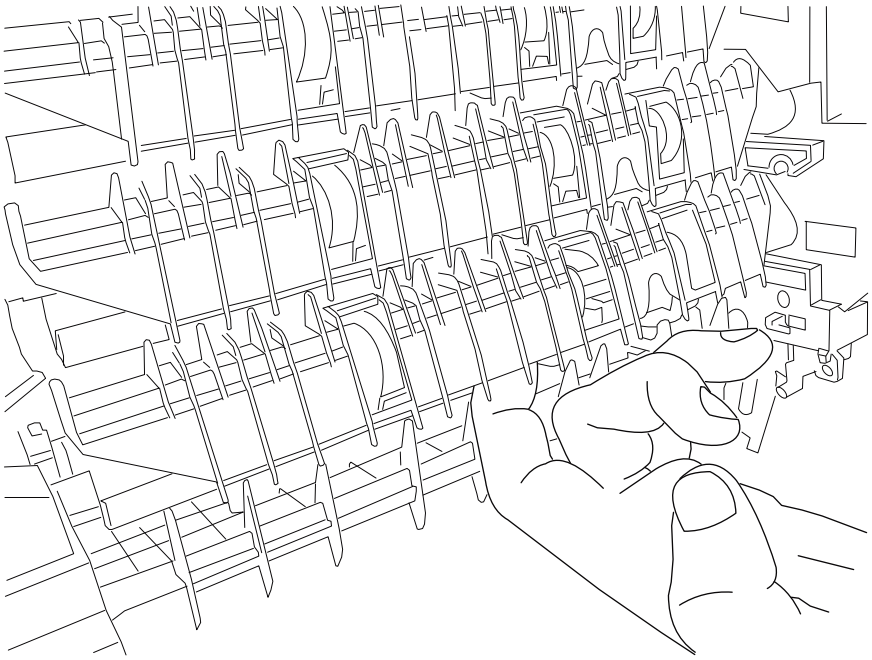
1. Remove the 4-bin mailbox assembly rear door assembly. See **"4-bin mailbox assembly rear door assembly removal" on page 4-224**.
2. Using a spring hook or needlenose pliers, remove the spring off the hooks.





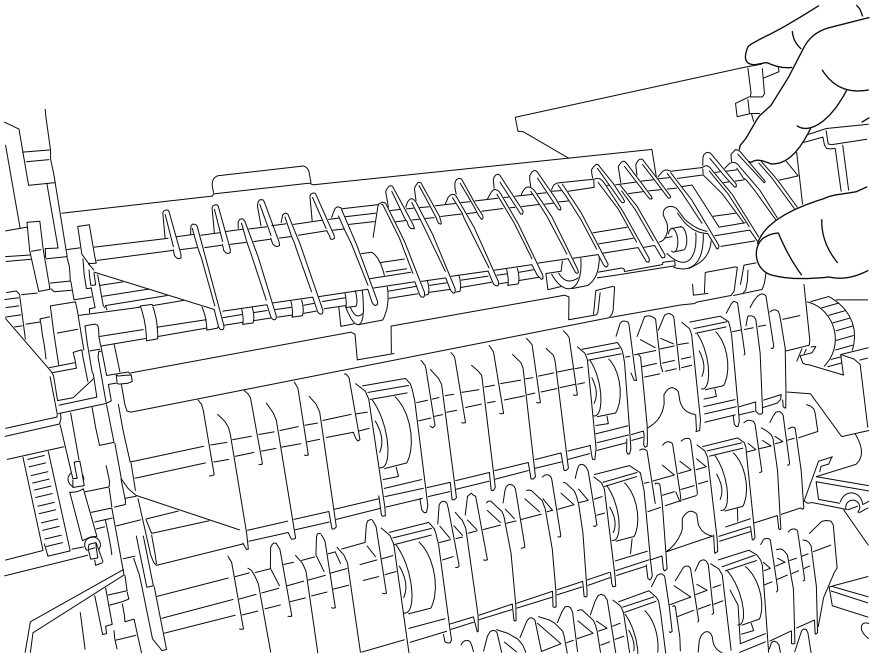
4-bin mailbox assembly deflector gate (bin 1 through 3) removal

1. Remove the 4-bin mailbox assembly rear door assembly. See **"4-bin mailbox assembly rear door assembly removal" on page 4-224**.
2. Remove the 4-bin mailbox assembly right rear inner cover.
3. Remove the 4-bin mailbox assembly spring. See **"4-bin mailbox assembly spring removal" on page 4-229**.
4. Grasp the deflector gate and pull it out of its socket on each side. Carefully remove the diverter from the machine.



4-bin mailbox assembly deflector gate (bin 4) removal

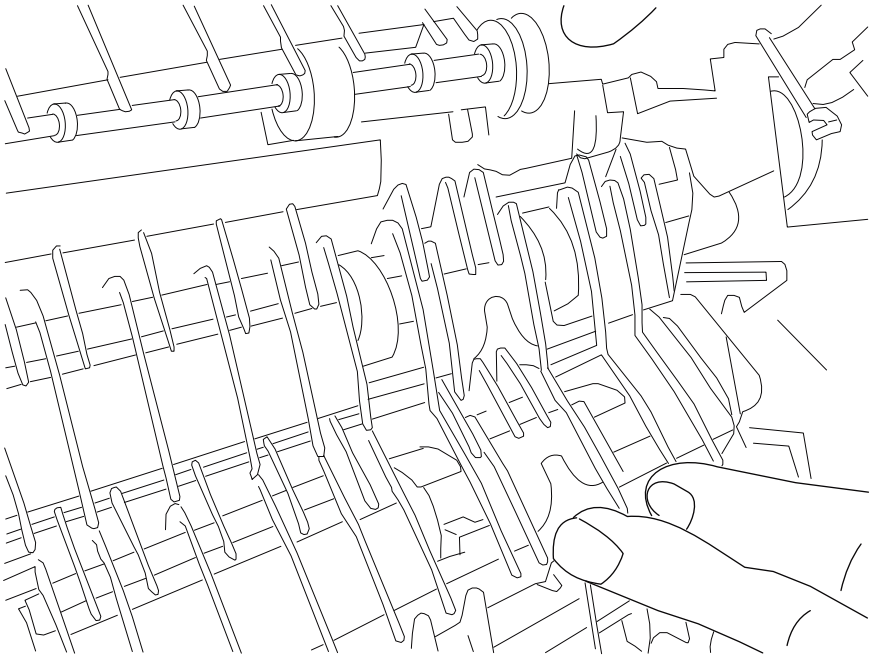
1. Remove the 4-bin mailbox assembly rear door assembly. See **"4-bin mailbox assembly rear door assembly removal" on page 4-224**.
2. Grasp the 4th bin deflector gate and pull out on either side.



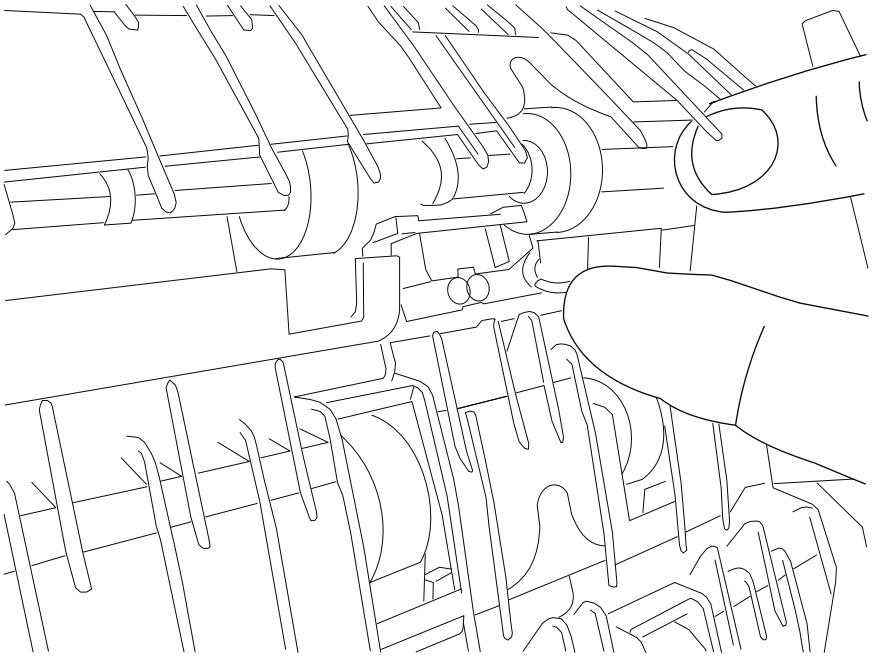
4-bin mailbox assembly sensor (pass through) removal

Note: The sensor (pass through) is the lower rear sensor. The rear upper sensor is the sensor (mailbox empty).

1. Open the rear door.
2. Lift the deflector gate above the sensor (pass through) and using a flat-blade screwdriver, release the tabs securing the sensor (pass through) to the 4-bin mailbox assembly.



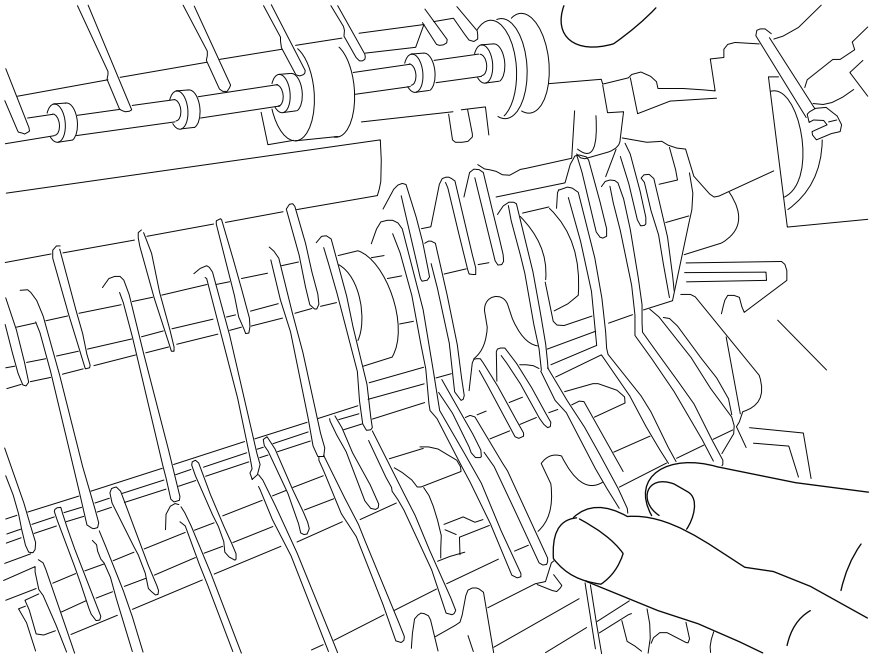
3. Remove the 4-bin mailbox left cover. See **"4-bin mailbox assembly left cover removal" on page 4-221**.
4. Disconnect the sensor (pass through) harness from the controller board.



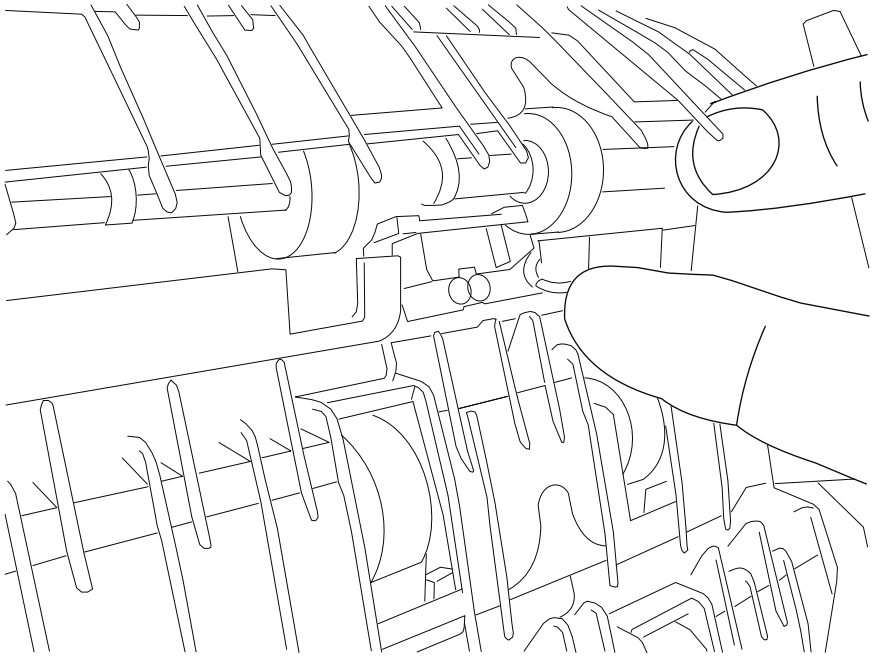
4-bin mailbox assembly sensor (mailbox empty) removal

Note: The sensor (pass through) is the lower rear sensor. The rear upper sensor is the sensor (mailbox empty).

1. Open the rear door.
2. Lift the deflector gate above the sensor (mailbox empty) and using a flat-blade screwdriver, release the tabs securing the sensor (mailbox empty) to the 4-bin mailbox assembly.

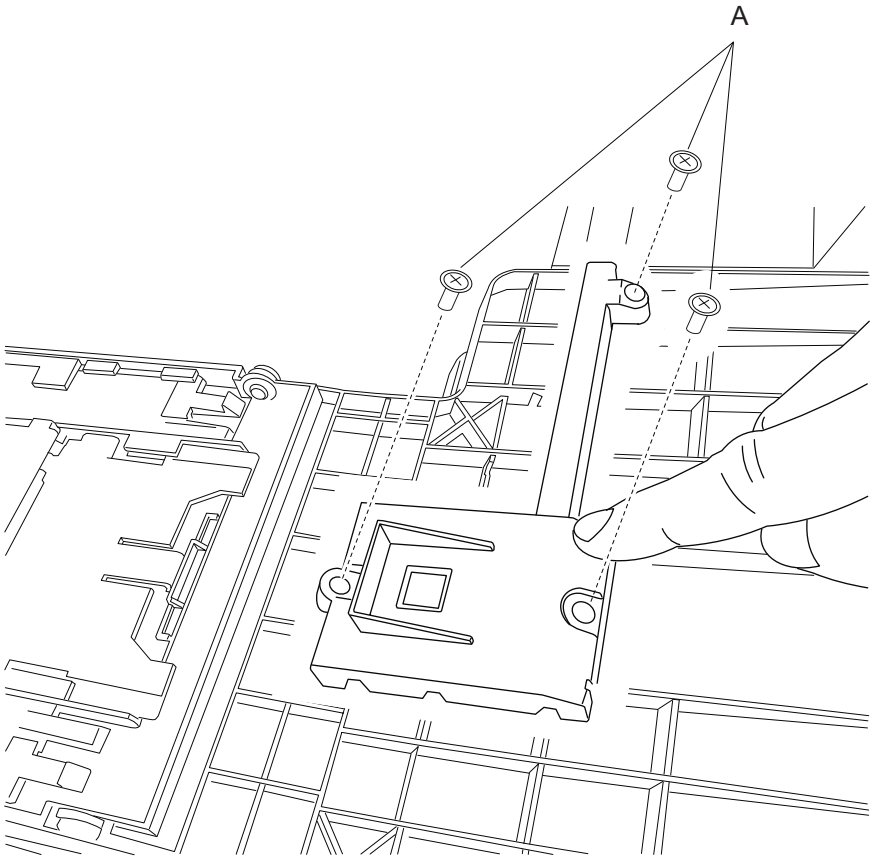


3. Remove the 4-bin mailbox left cover. See **"4-bin mailbox assembly left cover removal" on page 4-221**.
4. Disconnect the sensor (mailbox empty) harness from the controller board.



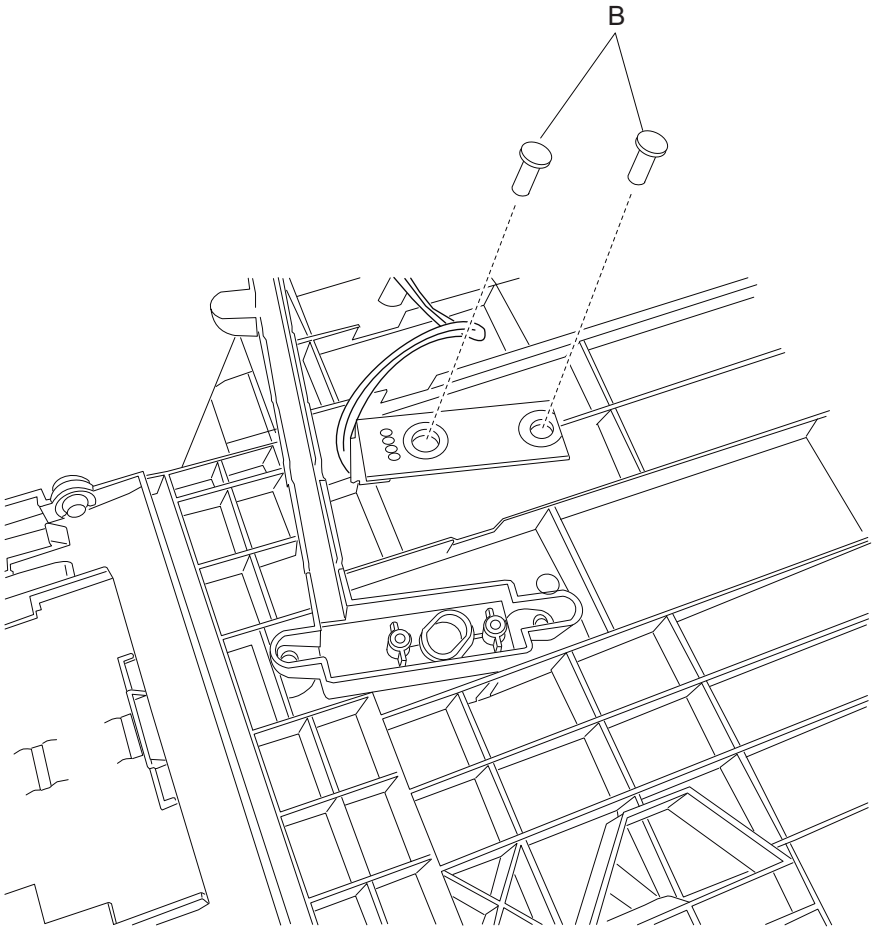
4-bin mailbox assembly standard output bin LED removal

1. Remove the three screws (A) on the underside of bin 1 securing the output bin LED bracket.



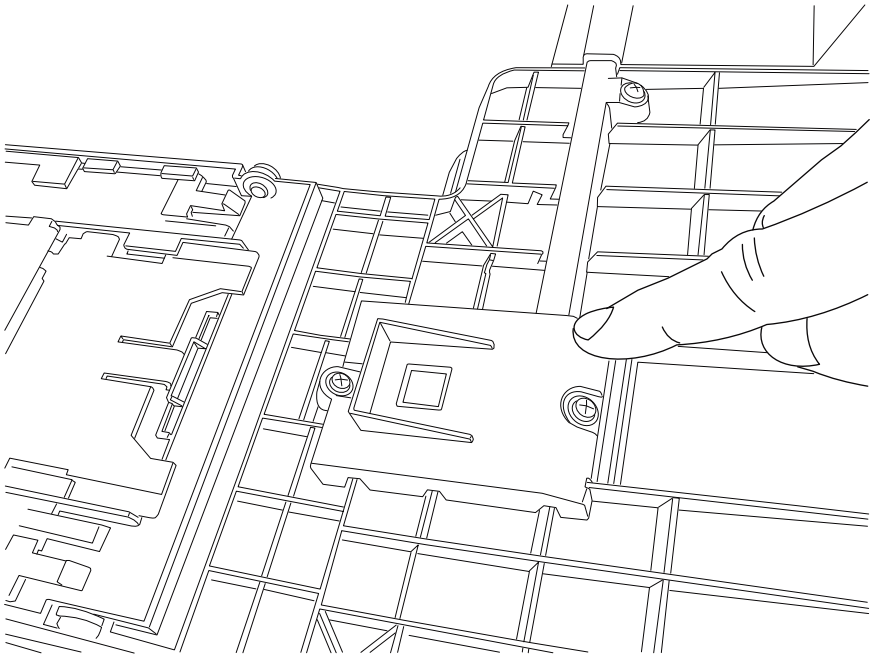
2. Pull the output bin LED bracket out from the underside of bin 1 and disconnect the LED harness.

3. Remove the two screws (B) securing the output bin LED to the bracket and remove the output bin LED.



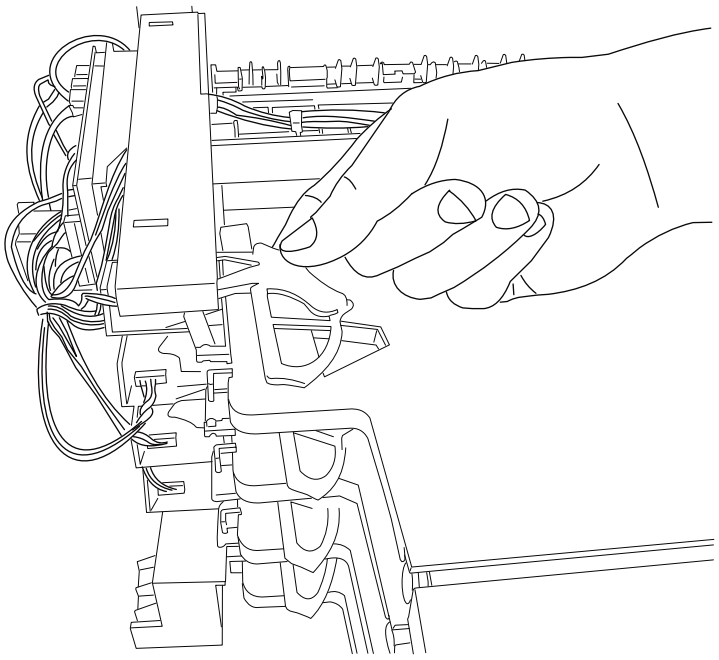
4-bin mailbox assembly LED clear lens removal

1. Remove the 4-bin mailbox standard output bin LED. See **"4-bin mailbox assembly sensor (mailbox empty) removal" on page 4-233**.
2. Remove the output bin LED clear lens from the output bin LED bracket.



4-bin mailbox assembly media bin full actuator removal

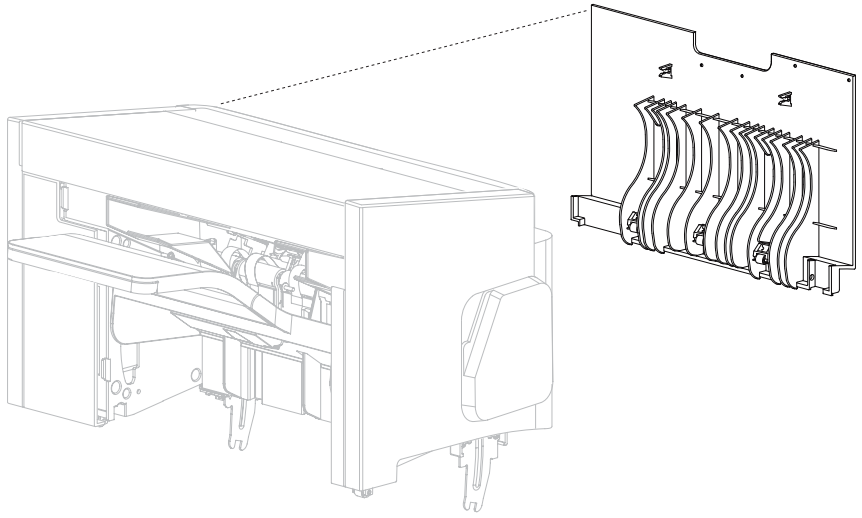
1. Remove the 4-bin mailbox assembly left cover. See **"4-bin mailbox assembly left cover removal" on page 4-221**.
2. Pry the front hinge of the media bin full actuator towards the rear until the front boss is released from its socket.



3. Pull the media bin full actuator toward the front and out of 4-bin mailbox assembly.

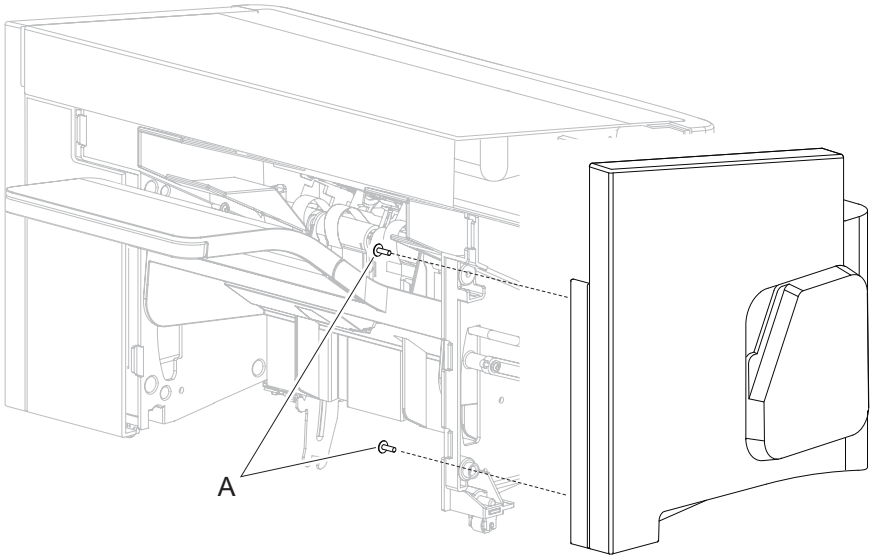
Offset stacker rear door assembly removal

1. Open the rear door assembly.
2. Force the left hinge out of the slot by pushing the door to the right.
3. Once the left hinge has been disengaged, pull the right hinge out.
4. Remove the offset stacker rear door assembly.



Offset stacker right cover removal

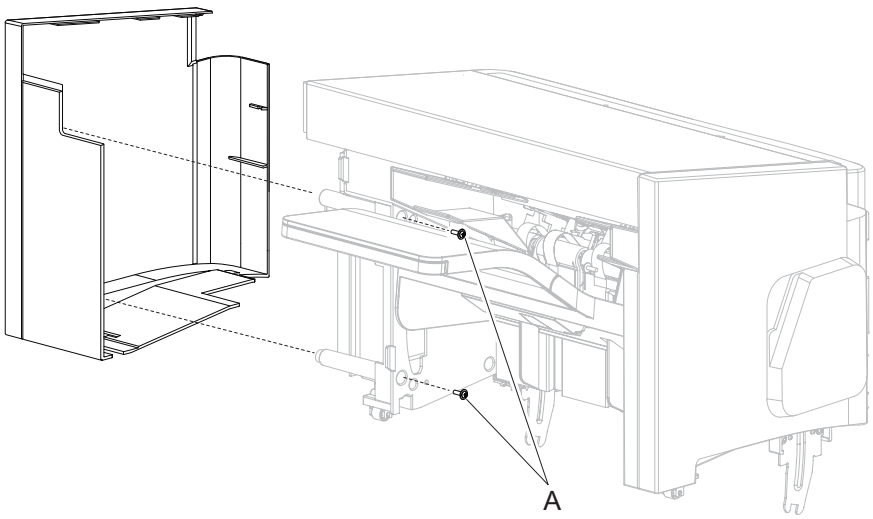
1. Remove the two screws (A) on the inside of the exit bin compartment securing the right cover.



2. Pull out on the front side of the right cover to disengage the tabs.
3. Remove the offset stacker right cover.

Offset stacker left cover removal

1. Remove the two screws (A) on the inside of the exit bin compartment securing the left cover.

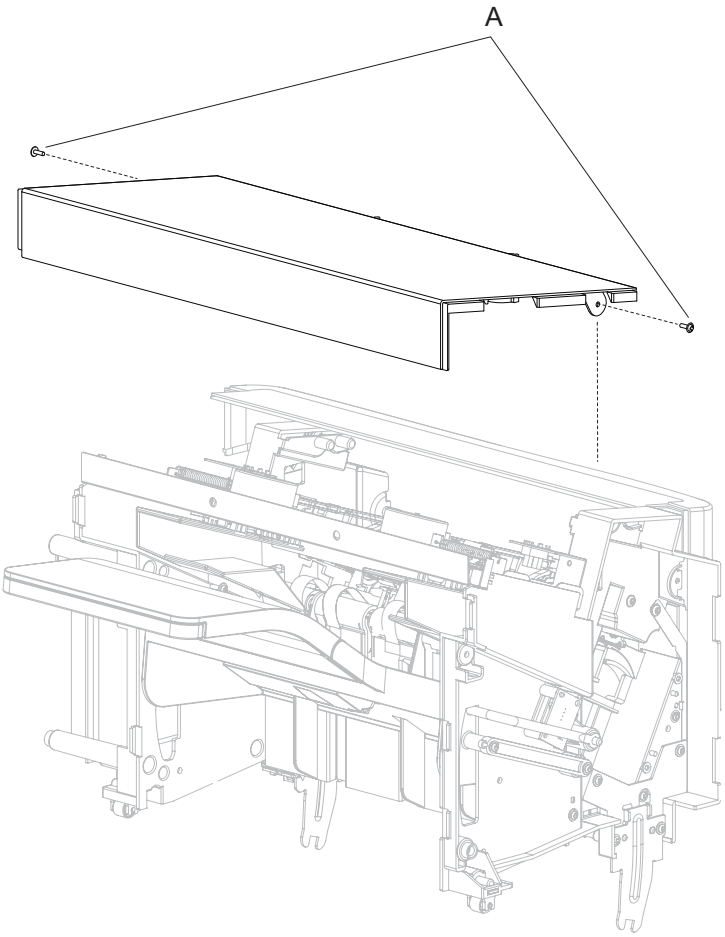


2. Pull out on the front side of the left cover to disengage the tabs.
3. Remove the offset stacker left cover.

Offset stacker top cover removal

1. Remove the left and right cover. See **"Offset stacker left cover removal" on page 4-238** and **"Offset stacker right cover removal" on page 4-237**.

2. Remove the screw (A) on each side of the top cover.

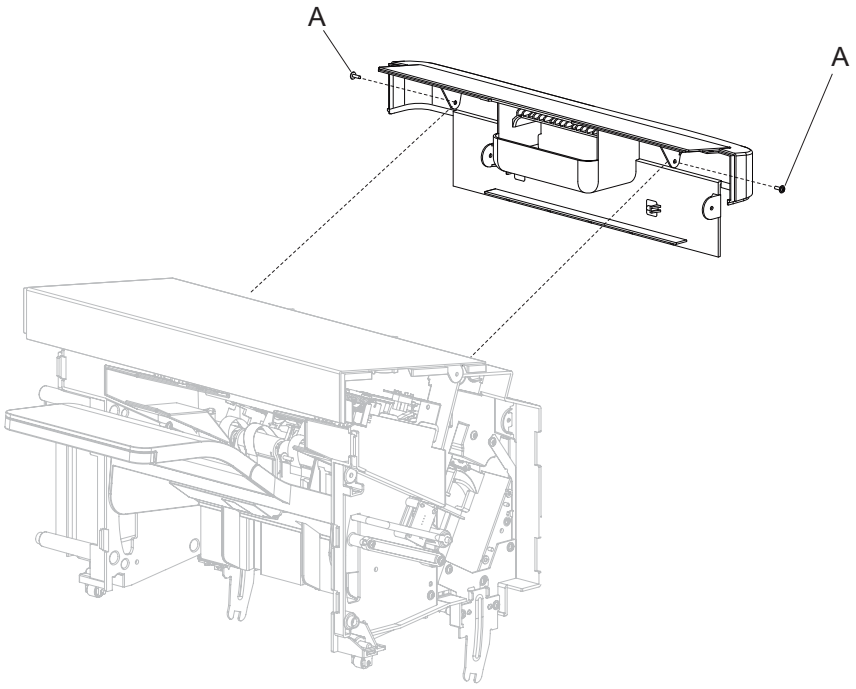


3. Pull up and toward the front to remove the offset stacker top cover.

Offset stacker handle cover removal

1. Remove the left and right cover. See **"Offset stacker left cover removal" on page 4-238** and **"Offset stacker right cover removal" on page 4-237**.

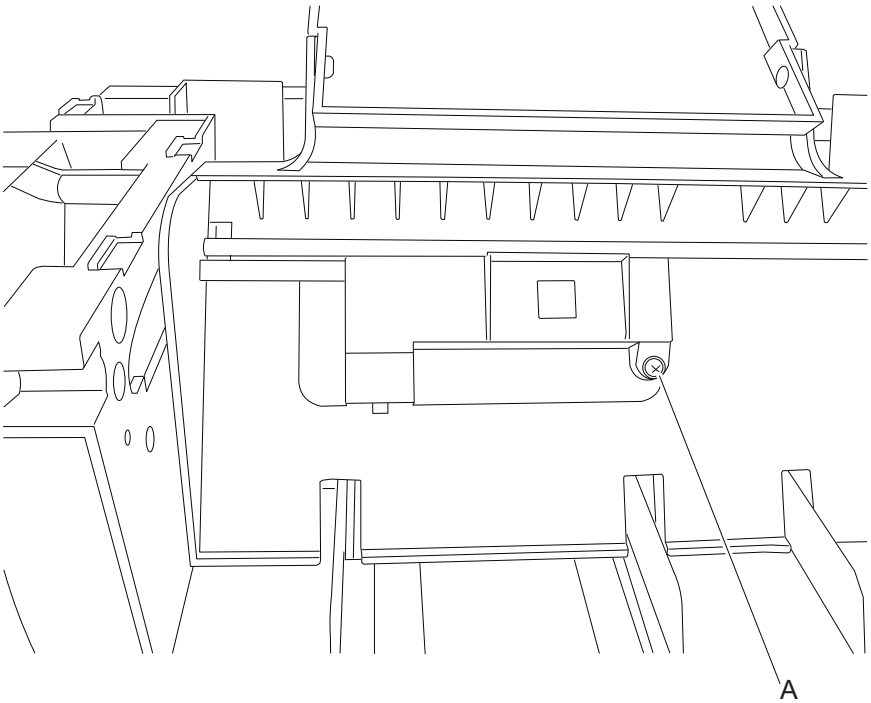
2. Remove the two screws (A) on each side of the offset stacker.

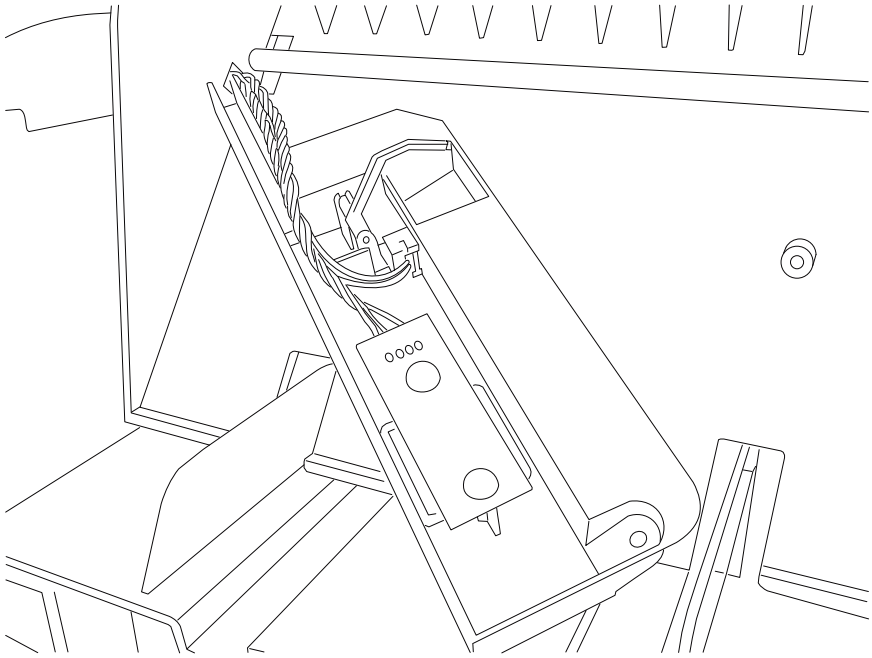


3. Lift up and to the rear to remove the cover.

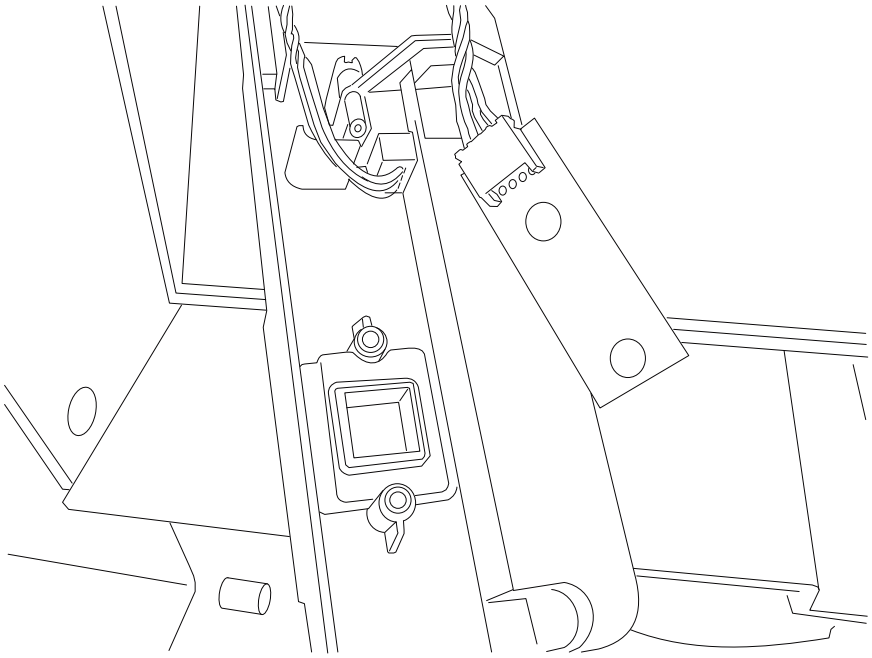
Offset stacker LED sensor cover removal

1. Remove the screw (A) securing the LED sensor cover to the underside of the output bin.



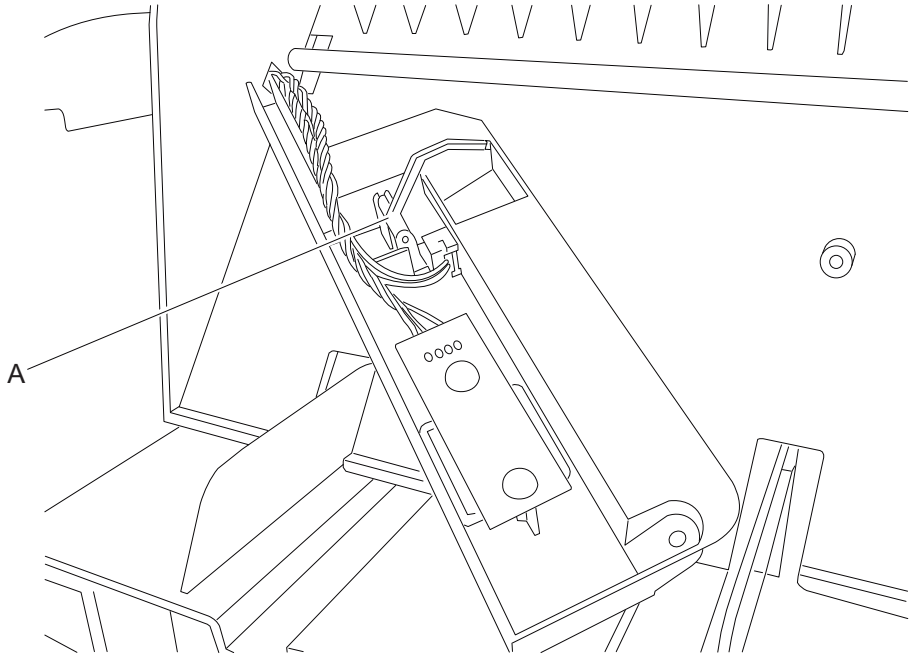


2. Remove the offset stacker standard output bin LED. See **"Offset stacker standard output bin LED and LED clear lens removal" on page 4-242**.
3. Remove the sensor (finisher media bin present). See **"Offset stacker sensor (finisher media bin present) removal" on page 4-242**.
4. Remove the LED sensor cover.



Offset stacker sensor (finisher media bin present) removal

1. Remove the offset stacker LED sensor cover. See **"Offset stacker LED sensor cover removal" on page 4-240**.
2. Using a flat-blade screwdriver, release the tabs (A) on the sensor and remove it from the sensor cover.

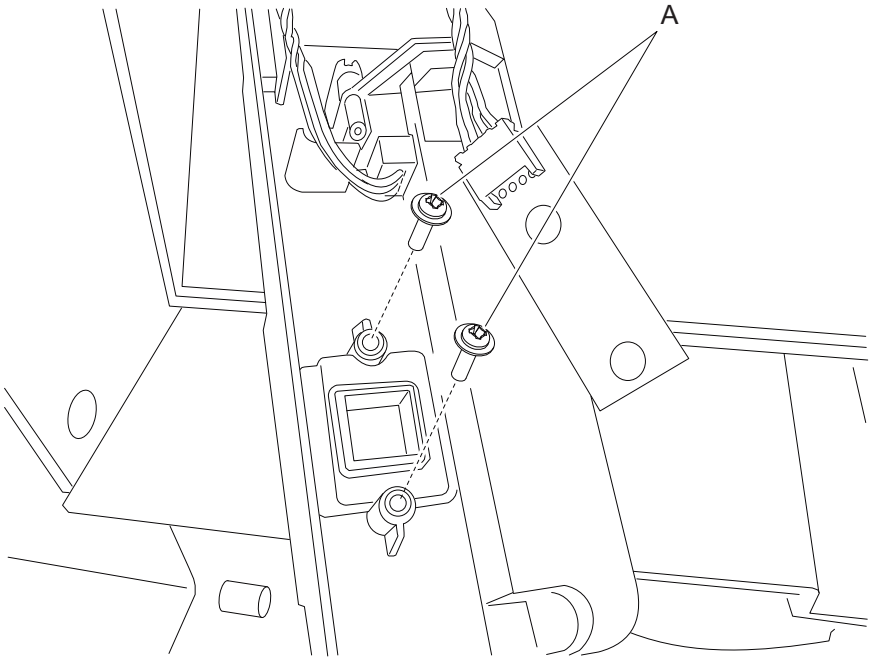


3. Remove the harness connected to the media bin present sensor.
4. Remove the offset stacker sensor (finisher bin media present).

Offset stacker standard output bin LED and LED clear lens removal

1. Remove the offset stacker LED sensor cover. See **"Offset stacker LED sensor cover removal" on page 4-240**.

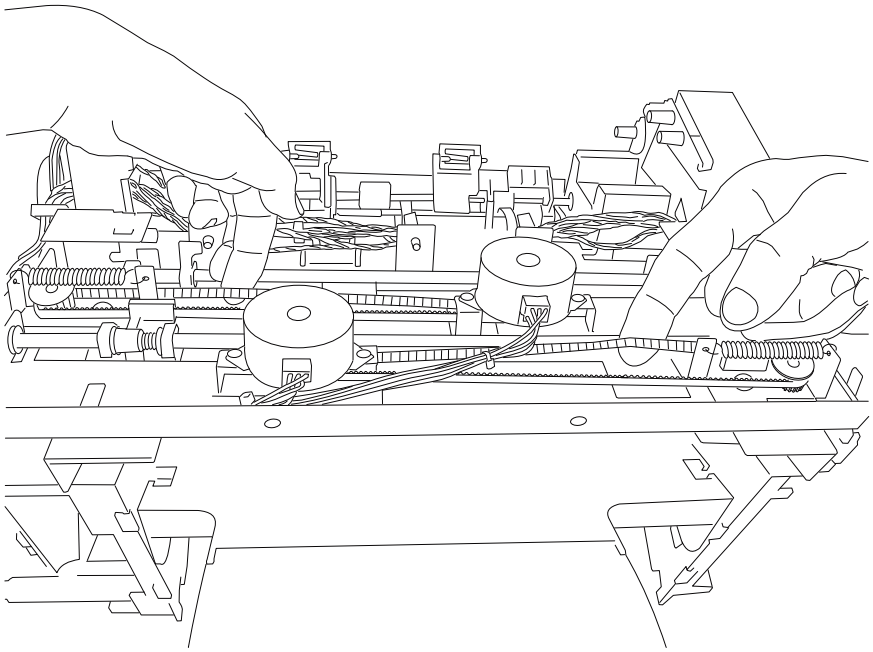
2. Remove the two screws (A) securing the LED to the cover.



3. Remove the LED and disconnect the harness.
4. Remove the LED clear lens.

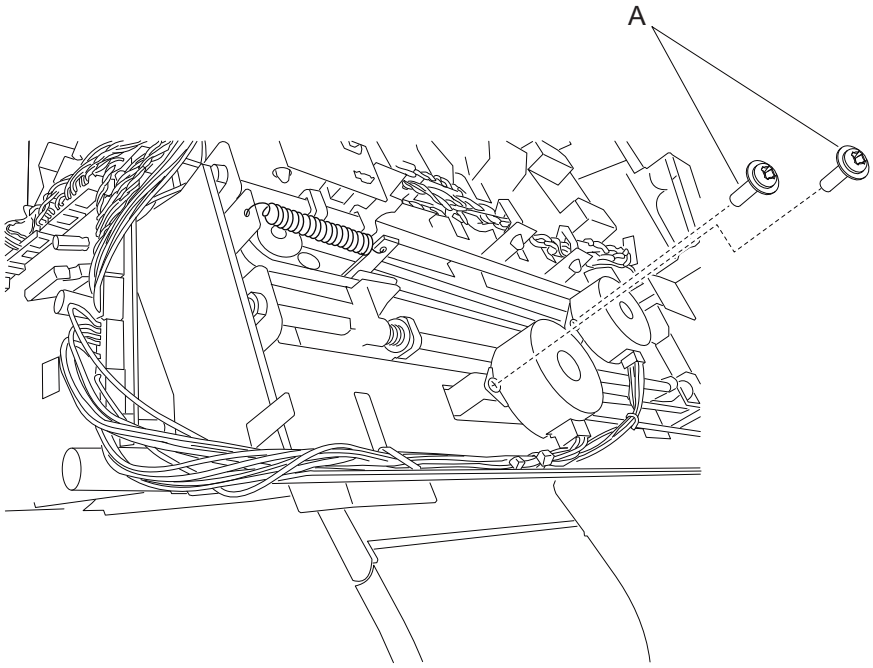
Offset stacker tamper drive belt removal

1. Remove the offset stacker tamper recoil spring. See **"Offset stacker tamper drive belt removal" on page 4-243**.
2. Pull the belt out the tamper belt holder and remove the belt from the pulley.



Offset stacker tamper drive motor assembly removal

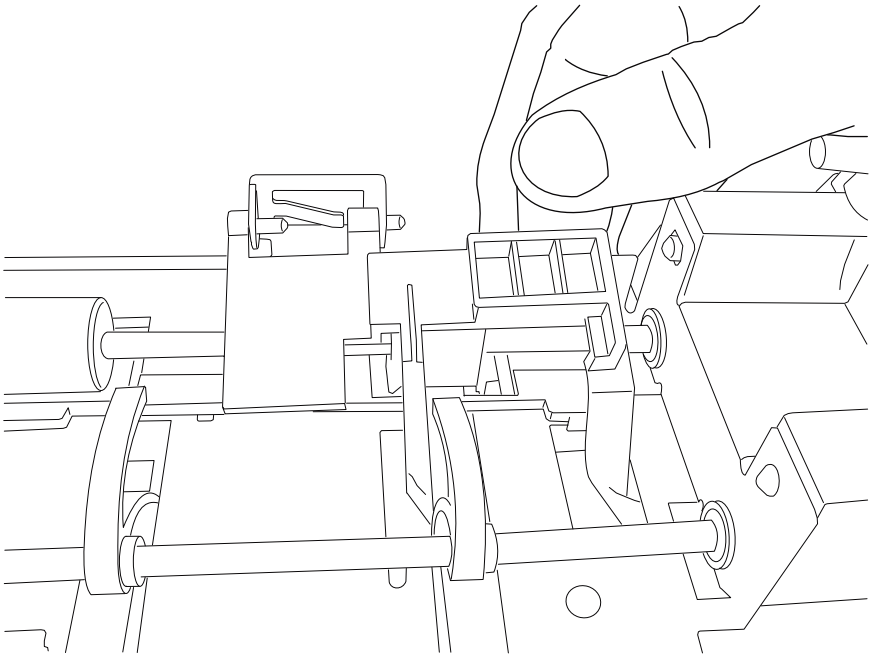
1. Remove the offset stacker top cover. See **"Offset stacker top cover removal" on page 4-238**.
2. Pull slack in the tamper drive belt and remove the belt from the tamper drive belt pulley.
3. Disconnect the tamper driver motor harness from the controller card.
4. Remove the two screws (A) securing the tamper drive motor assembly to the tamper frame.



5. Remove the tamper drive motor assembly.

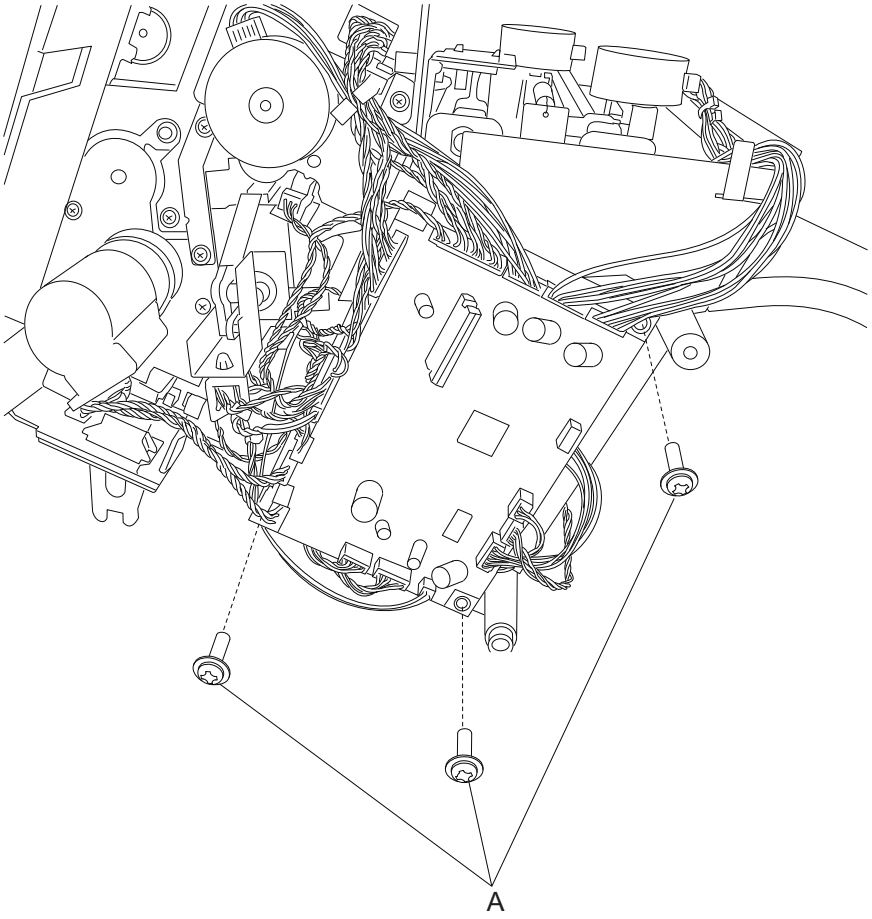
Offset stacker media stack flap and media stack flap actuator removal

1. Remove the offset stacker handle cover. See **"Offset stacker handle cover removal" on page 4-239**.
2. Release the locking tab and slide the media stack flap actuator to the right and remove..



Stapler/stacker controller card assembly removal

1. Remove the left left cover. See **"Offset stacker left cover removal" on page 4-238**.
2. Disconnect all harnesses to the controller card.
3. Remove the three screws (A) securing the stapler/stacker controller card assembly.

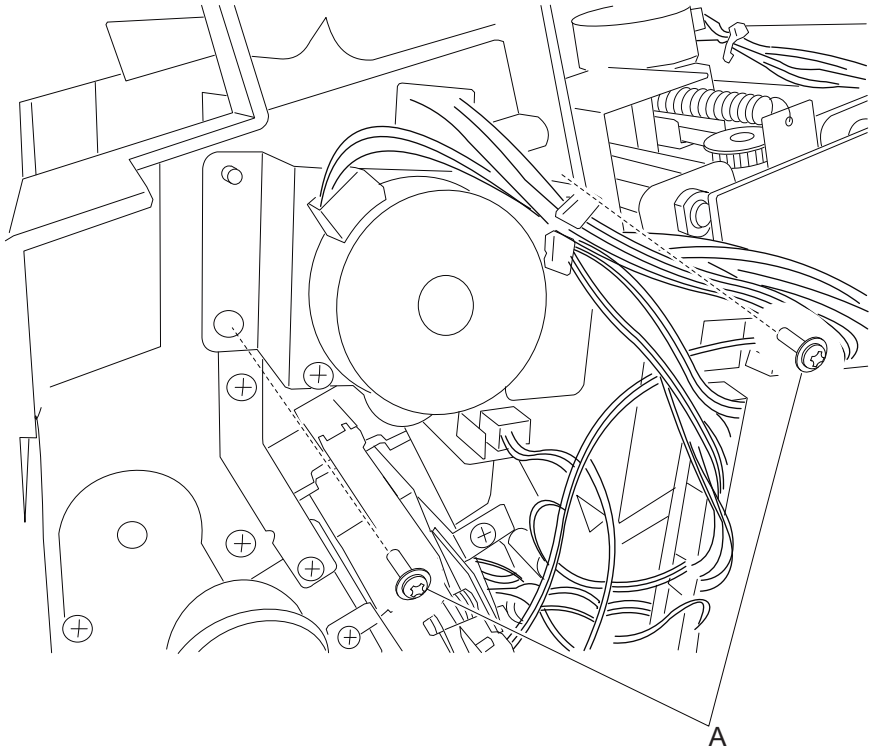


4. Remove the stapler/stacker controller card assembly.

Offset stacker paddle drive motor assembly removal

1. Remove the left left cover. See **"Offset stacker left cover removal" on page 4-238**.
2. Disconnect the paddle motor harness from the controller card.
3. Remove the cable from the harness clip.

4. Remove the two screws (A) securing the two paddle drive motor assemblies.

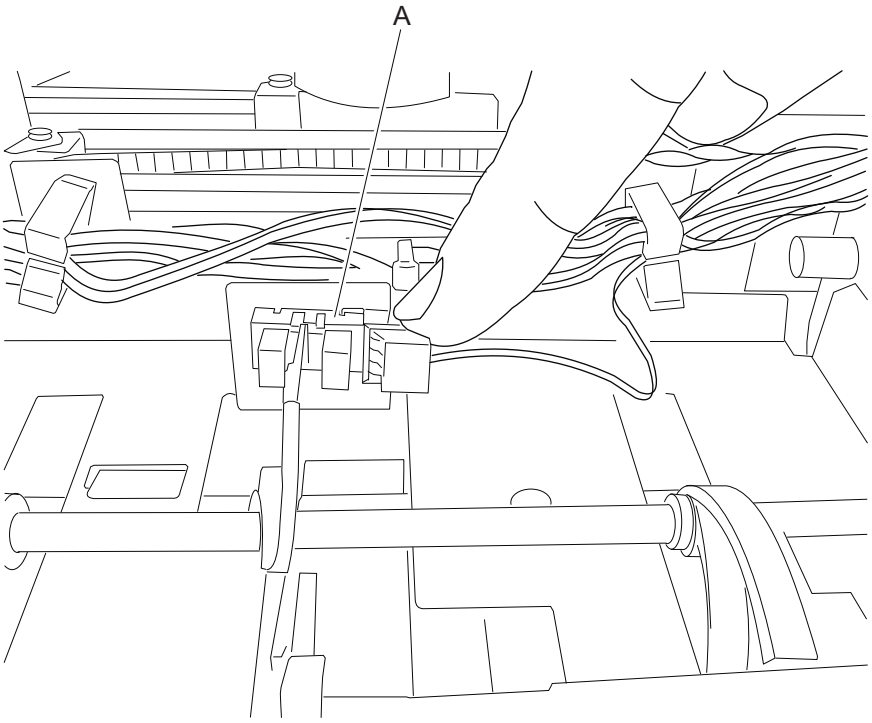


5. Remove the paddle drive motor assembly.

Offset stacker sensor (media stack) removal

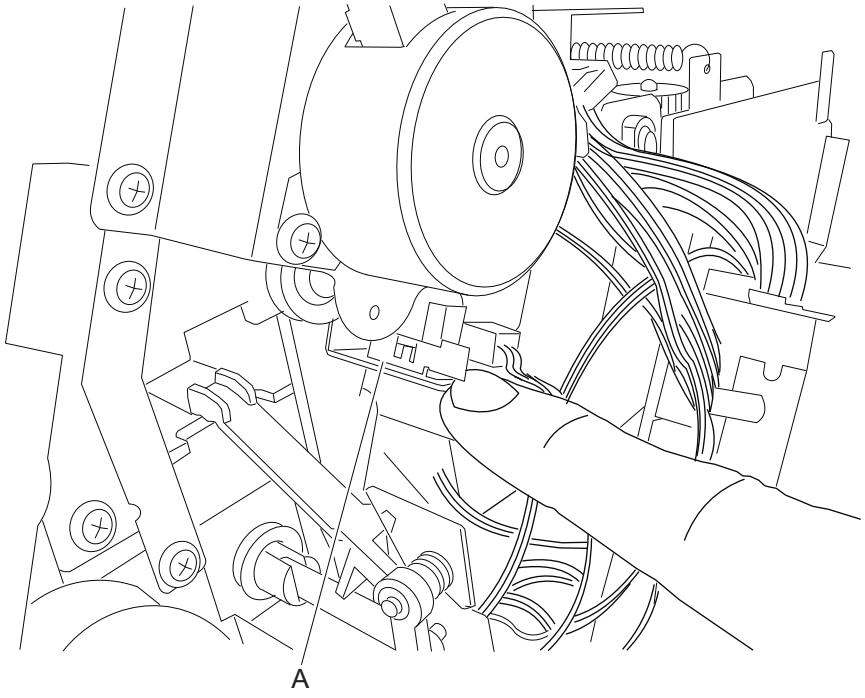
1. Remove the offset stacker top cover. See **"Offset stacker top cover removal" on page 4-238**.
2. Disconnect the harness to the sensor (media stack).

3. Using your fingers, pinch tab (A) securing the offset stacker sensor (media stack) and remove.



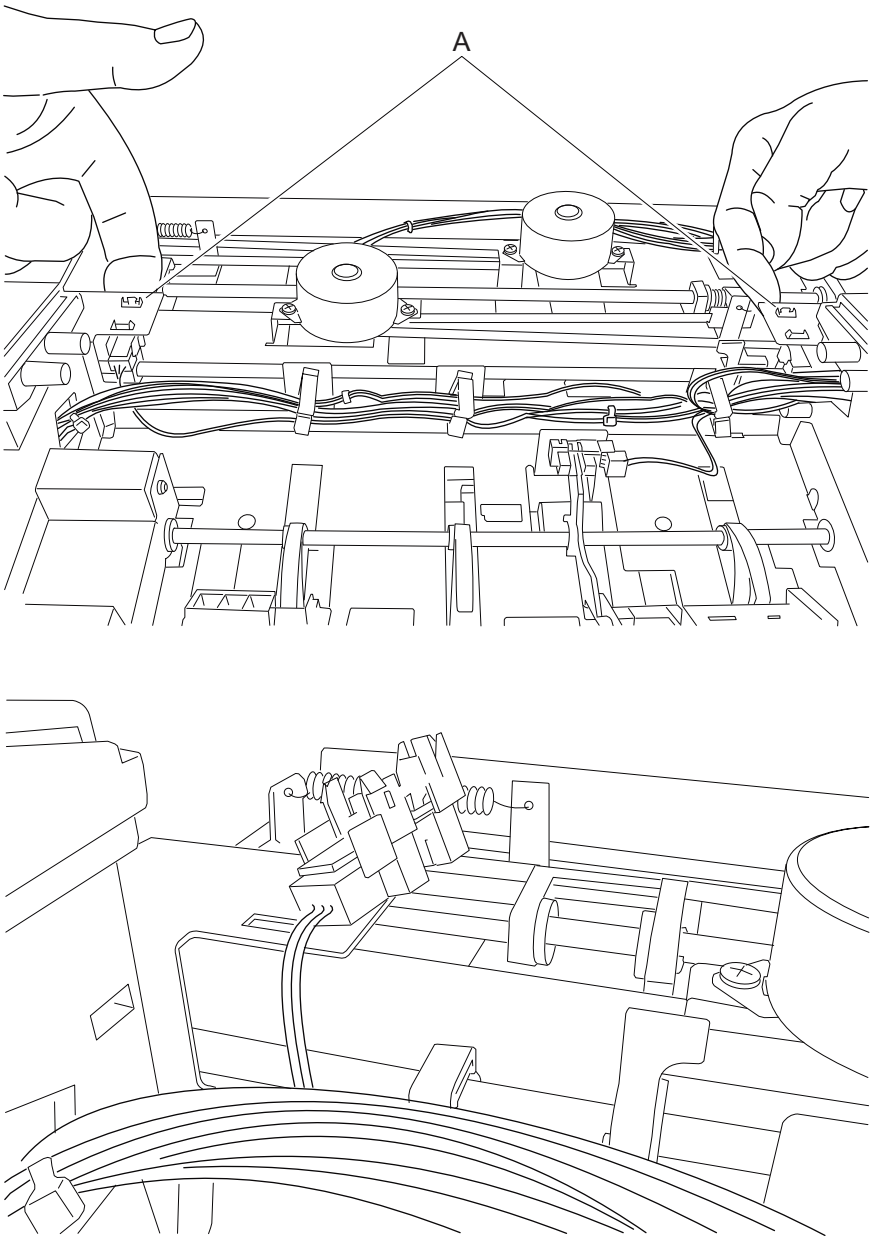
Offset stacker sensor (paddle HP) removal

1. Remove the offset stacker left cover. See **"Offset stacker left cover removal" on page 4-238**.
2. Disconnect the harness to the offset stacker sensor (paddle home position).
3. Using your fingers, pinch tab (A) securing the offset stacker sensor (paddle home position) and remove.



Offset stacker sensor (tamper HP left and right) removal

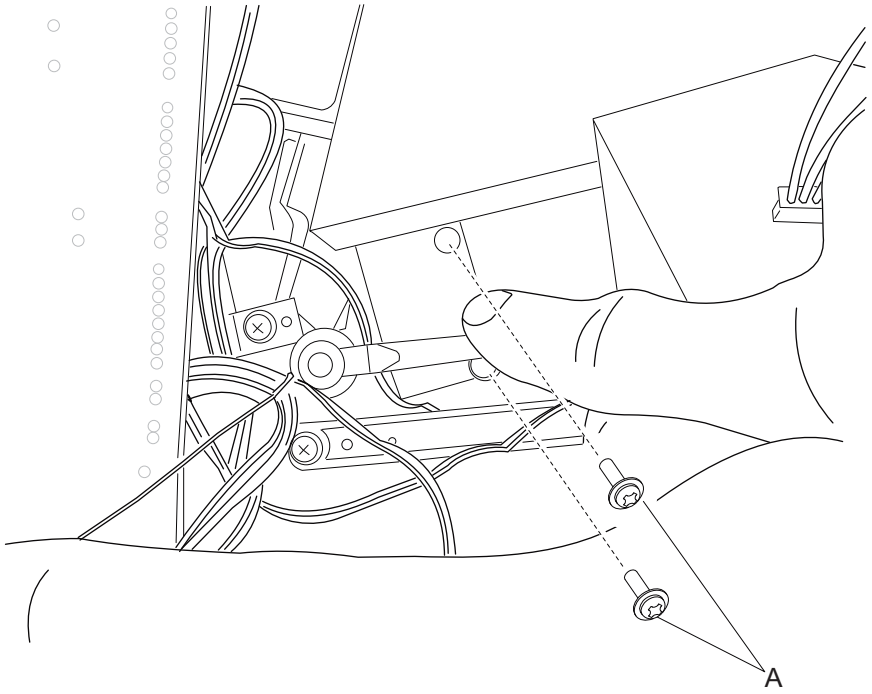
1. Remove the offset stacker top cover. See **"Offset stacker top cover removal" on page 4-238**.
2. Disconnect the harness to the offset stacker sensor (tamper HP left and right).
3. Using your fingers, pinch the tabs securing the staple finisher sensor (tamper HP left and right) and remove.



Offset stacker sensor (bin full send) removal

1. Remove the stapler/stacker controller card assembly. See **"Stapler/stacker controller card assembly removal" on page 4-246**.

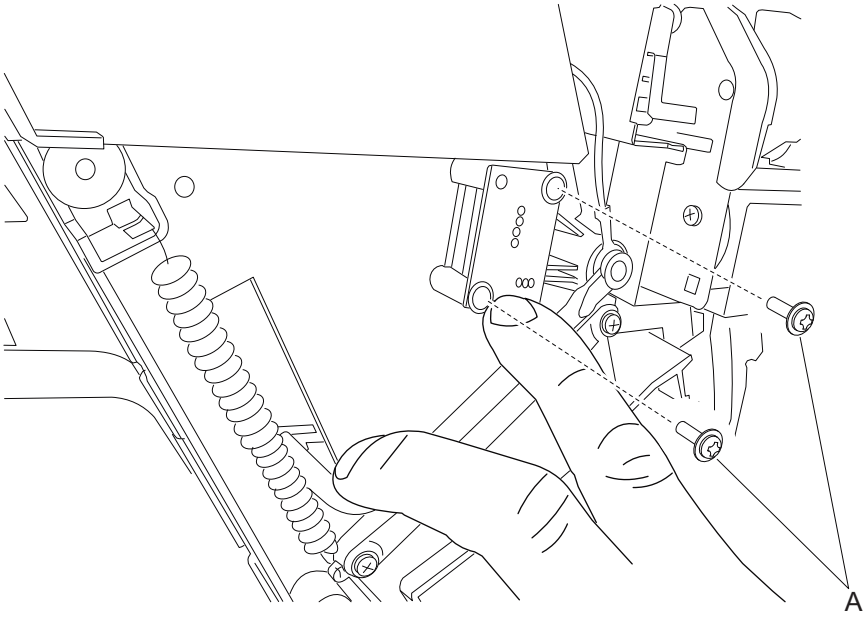
2. Remove the two screws (A) securing the staple finisher sensor (bin full send).



3. Disconnect the harness and remove.

Offset stacker sensor (bin full receive) removal

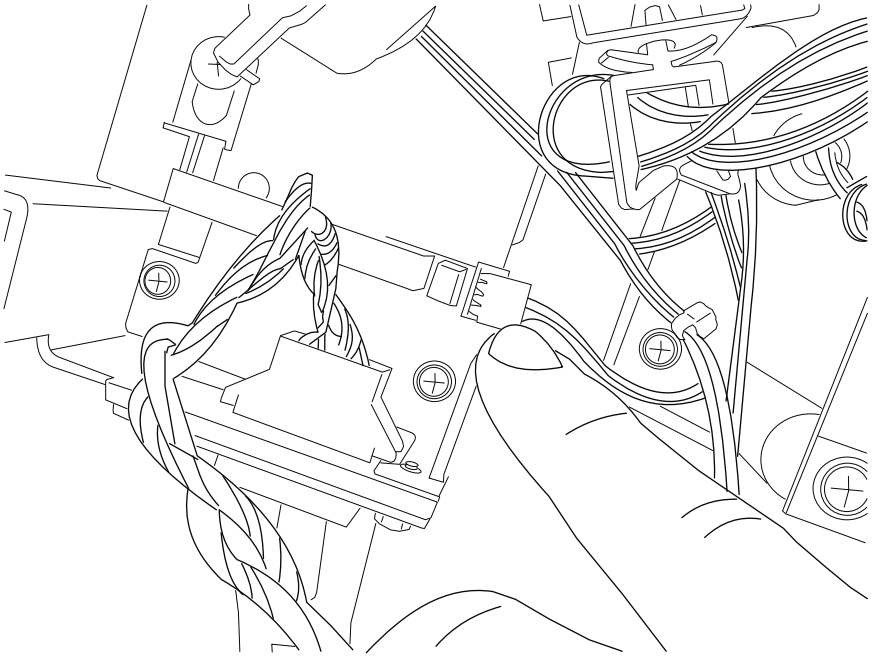
1. Remove the offset stacker right cover. See **"Offset stacker right cover removal" on page 4-237**.
2. Remove the two screws (A) securing the sensor (bin full receive).



3. Disconnect the harness and remove.

Offset stacker sensor (deflector HP) removal

1. Remove the offset stacker left cover. See **"Offset stacker left cover removal" on page 4-238**.
2. Disconnect the harness to the sensor (deflector HP).
3. Release the tabs securing the sensor to the offset stacker.

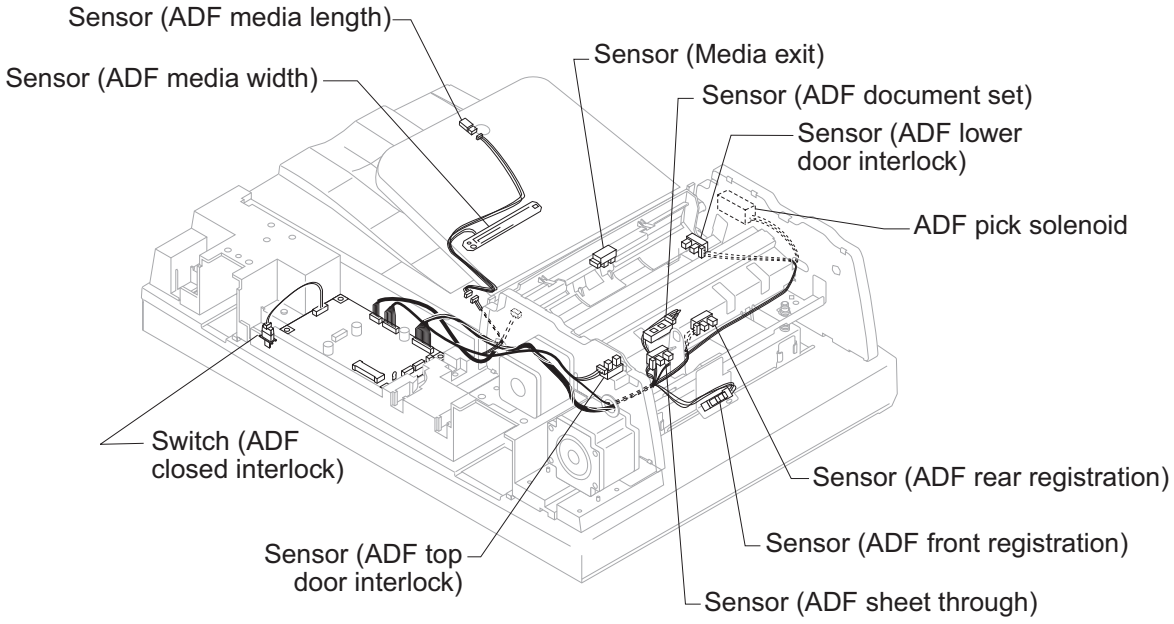


Note: The tabs may be difficult to access. The use of a spring hook or flat-blade screwdriver may be necessary to release the tabs.

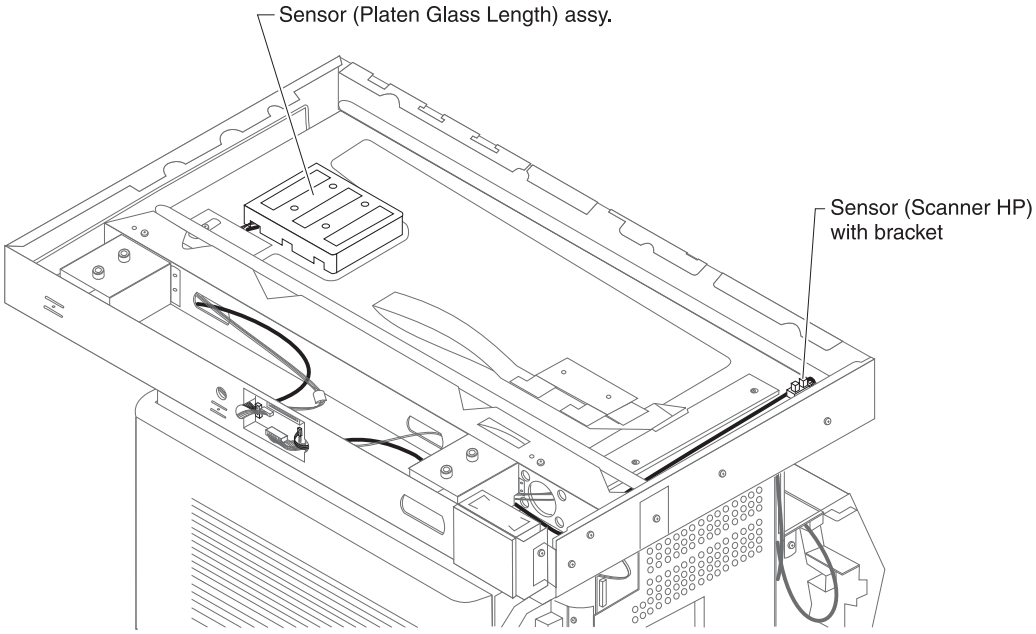
5. Connector locations

Locations

Sensors–ADF



Sensors–Flatbed



6. Preventive maintenance

This chapter describes procedures for printer preventive maintenance. Follow these recommendations to help prevent problems and maintain optimum performance.

Safety inspection guide

The purpose of this inspection guide is to aid you in identifying unsafe conditions.

If any unsafe conditions exist, find out how serious the hazard could be and if you can continue before you correct the hazard.

Check the following items:

- Damaged, missing, or altered parts, especially in the area of the On/Off switch and the power supply
- Damaged, missing, or altered covers, especially in the area of the top cover and the power supply cover
- Possible safety exposure from any non-Dell attachments

Lubrication specifications

Lubricate only when parts are replaced or as needed, not on a scheduled basis. Use of lubricants other than those specified can cause premature failure. Some unauthorized lubricants may chemically attack polycarbonate parts. Use IBM no. 10 oil, P/N 1280443 (Approved equivalents: Mobil DTE27, Shell Tellus 100, Fuchs Renolin MR30), IBM no. 23 grease (Approved equivalent Shell Darina 1), and grease, P/N 99A0394 to lubricate appropriate areas. Use Nyogel type 774 to lubricate the Fuser Drive Assembly and Nyogel 744 to lubricate the ITU and Cartridge Drive assemblies.

Individual maintenance part expected life

Description	Part number	Expected part life
Charge roll assembly with tool	40X5852	300K
Transfer roll assembly with tool	40X1886	300K
Pick roll assembly (2)	40X4308	300K
Printer maintenance kit (100 V type 1 fuser)	40X4723	300K
Printer maintenance kit (110 V type 1 fuser)	40X4724	300K
Printer maintenance kit (220 V type 1 fuser)	40X4765	300K
Printer maintenance kit (100 V type 2 fuser)	40X4766	150K
Printer maintenance kit (110 V type 2 fuser)	40X4767	150K
Printer maintenance kit (220 V type 2 fuser)	40X4768	150K
ADF feed / pick roll assembly	40X4540	120K
ADF separator roll and guide	40X4605	120K

Scheduled maintenance

Maintenance kit

The operator panel displays the message `80 Scheduled Maintenance` at each 300K page count interval. It is necessary to replace the fuser assembly, transfer roller, charge roll, and pick tires at this interval to maintain the print quality and reliability of the printer. The parts are available as a maintenance kit with the following part numbers:

Maintenance kits

Description	Part number	Maintenance Interval
Printer maintenance kit (100V)	40X4723	300K
Printer maintenance kit (110V)	40X4724	300K
Printer maintenance kit (220V)	40X4765	300K
Printer maintenance kit (100V type 2 fuser)	40X4766	150K
Printer maintenance kit (110V type 2 fuser)	40X4767	150K
Printer maintenance kit (220V type 2 fuser)	40X4768	150K
ADF maintenance kit - includes: • ADF feed/pick roll assembly • ADF separator roll and guide	40X4769	120K

After replacing the kit, the maintenance count must be reset to zero to clear the “80 Scheduled Maintenance” message. See **“Reset Maintenance Counter” on page 3-29**.

Maintaining the printer

Periodically, certain tasks are required to maintain optimum print quality.

Cleaning the exterior of the printer

1. Make sure that the printer is turned off and unplugged from the wall outlet.

CAUTION: SHOCK HAZARD: To avoid the risk of electric shock when cleaning the exterior of the printer, unplug the power cord from the wall outlet and disconnect all cables to the printer before proceeding.

2. Remove paper from the standard exit bin.
3. Dampen a clean, lint-free cloth with water.

Warning: Do not use household cleaners or detergents, as they may damage the finish of the printer.

4. Wipe only the outside of the printer, making sure to include the standard exit bin.

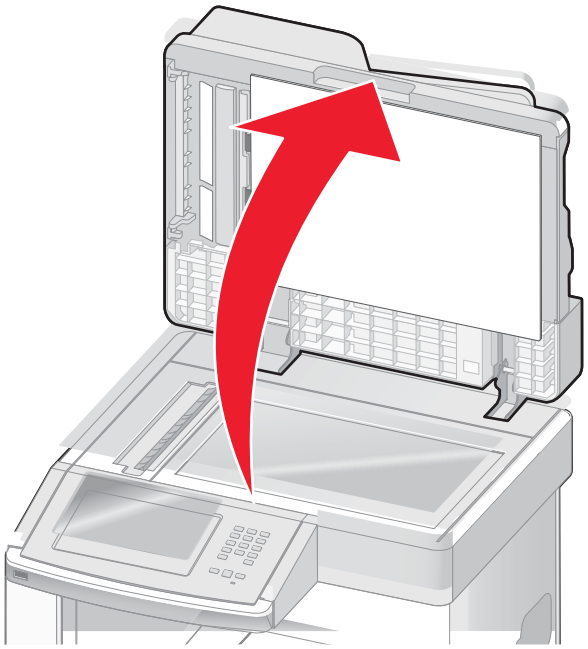
Warning: Using a damp cloth to clean the interior may cause damage to your printer.

5. Make sure the paper support and standard exit bin are dry before beginning a new print job.

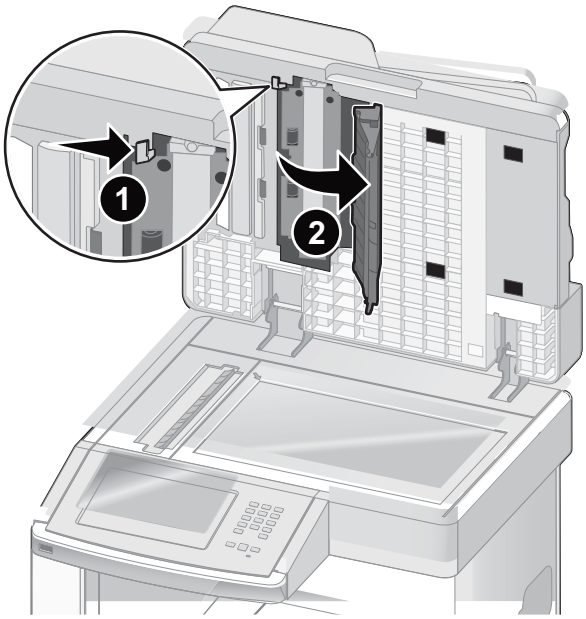
Cleaning the scanner glass

Clean the scanner glass if you encounter print quality problems, such as streaks on copied or scanned images.

1. Slightly dampen a soft, lint-free cloth or paper towel with water.
2. Open the scanner cover.



3. Wipe the scanner glass until it is clean and dry.
4. Wipe the white underside of the scanner cover until it is clean and dry.
5. Open the bottom ADF door.



6. Wipe the ADF scanner glass under the ADF door.
7. Close the bottom ADF door.
8. Wipe the scanner glass (flatbed) and backing material by moving the cloth or paper towel from side to side.

9. Close the scanner cover.

Note: Dell recommends the use of Klear Screen cleaner for the scanner glass, LCD screen, and operator panel buttons. This can be ordered from www.KlearScreen.com or by calling 1-800-505=5327. Order kit(s) KS-SP12 or KS-SP50.

Warning: Dell does not recommend the use of any alcohol based solution on the operator panel buttons or the LCD screen as cosmetic damage to those assemblies may result.

7. Parts catalog

How to use this parts catalog

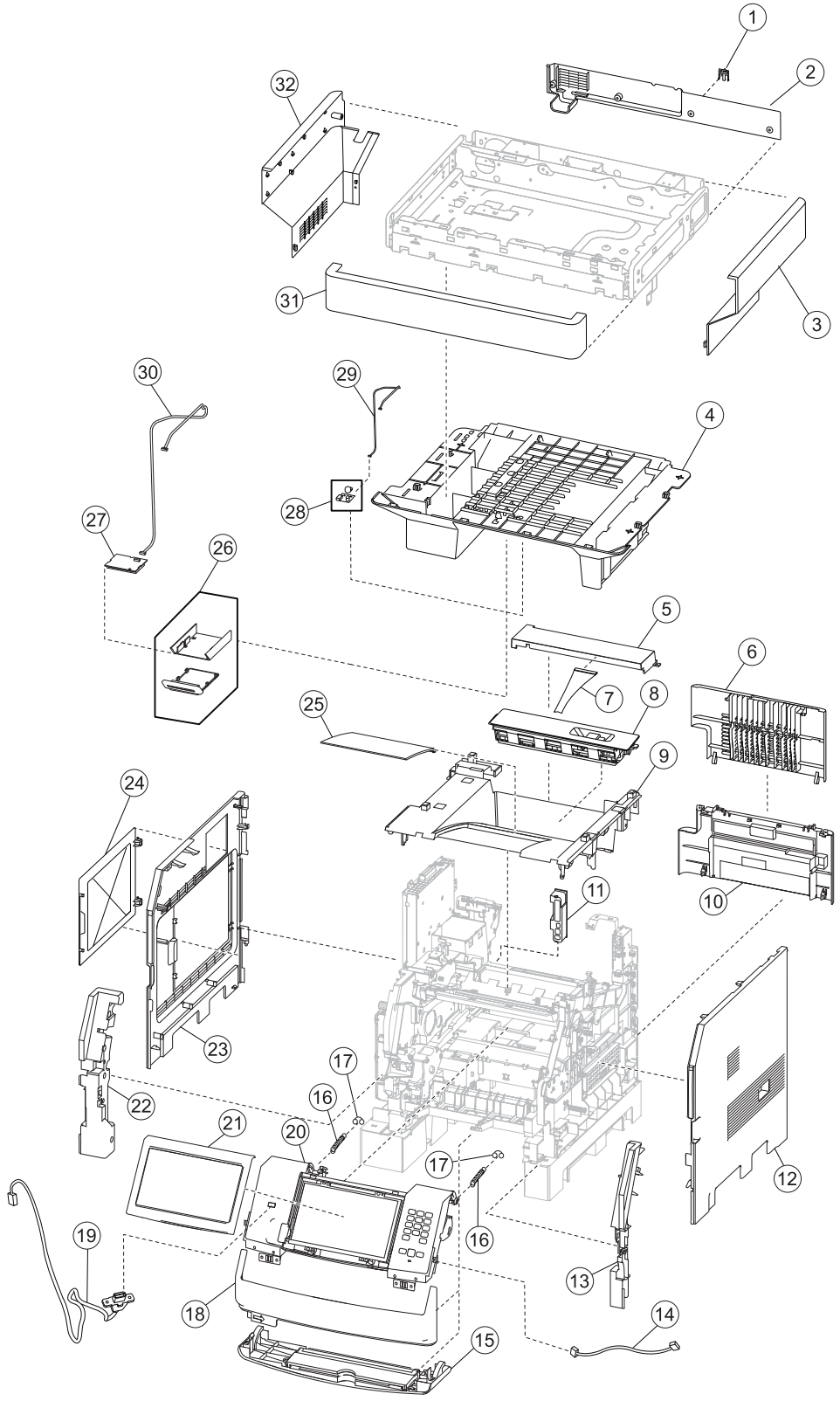
The following legend is used in the parts catalog:

Asm-index	Part number	Units/mach - OR - Units/option	Units/ FRU	Description

- **Asm-index**: Identifies the assembly and the item in the diagram. For example, 3-1 indicates Assembly 3 and item number 1 in the table.
- **Part number**: Identifies the unique number that identifies this FRU.
- **Units/mach**: Refers to the number of units actually used in the base machine or product.
- **Units/option**: Refers to the number of units in a particular option. It does not include the rest of the base machine.
- **Units/FRU**: Refers to the number of units packaged together and identified by the part number.
- **NS**: (Not shown) in the Asm-Index column indicates that the part is procurable but is not pictured in the illustration.
- **PP**: (Parts Packet) in the parts description column indicates the part is contained in a parts packet.
- Model information used in the parts catalog:

Machine type	MFG Model/ Dell Model	Description					
		AIO	Simplex ADF	Duplex ADF	Duplex printer	Modem	Hard drive
7462-031	X651de	x	x		x		
7462-035	X652de/ 5535dn	x	x		x	x	
7462-0A1	X654de	x		x	x		
7462-0A5	X656dte	x		x	x	x	
7462-231	X654de	x		x	x		
7462-232	X654de	x		x	x	x	
7462-235	X656dte	x		x	x		x
7462-236	X656dte	x		x	x	x	x
7462-2A1	X654de	x		x	x		
7462-2A2	X654de	x		x	x	x	
7462-2A5	X656dte	x		x	x		x
7462-2A6	X656dte	x		x	x	x	x
7462-432	X658de	x		x	x		x
7462-436	X658de	x		x	x	x	x
7462-4A2	X658de	x		x	x		x
7462-4A6	X658de	x		x	x	x	x

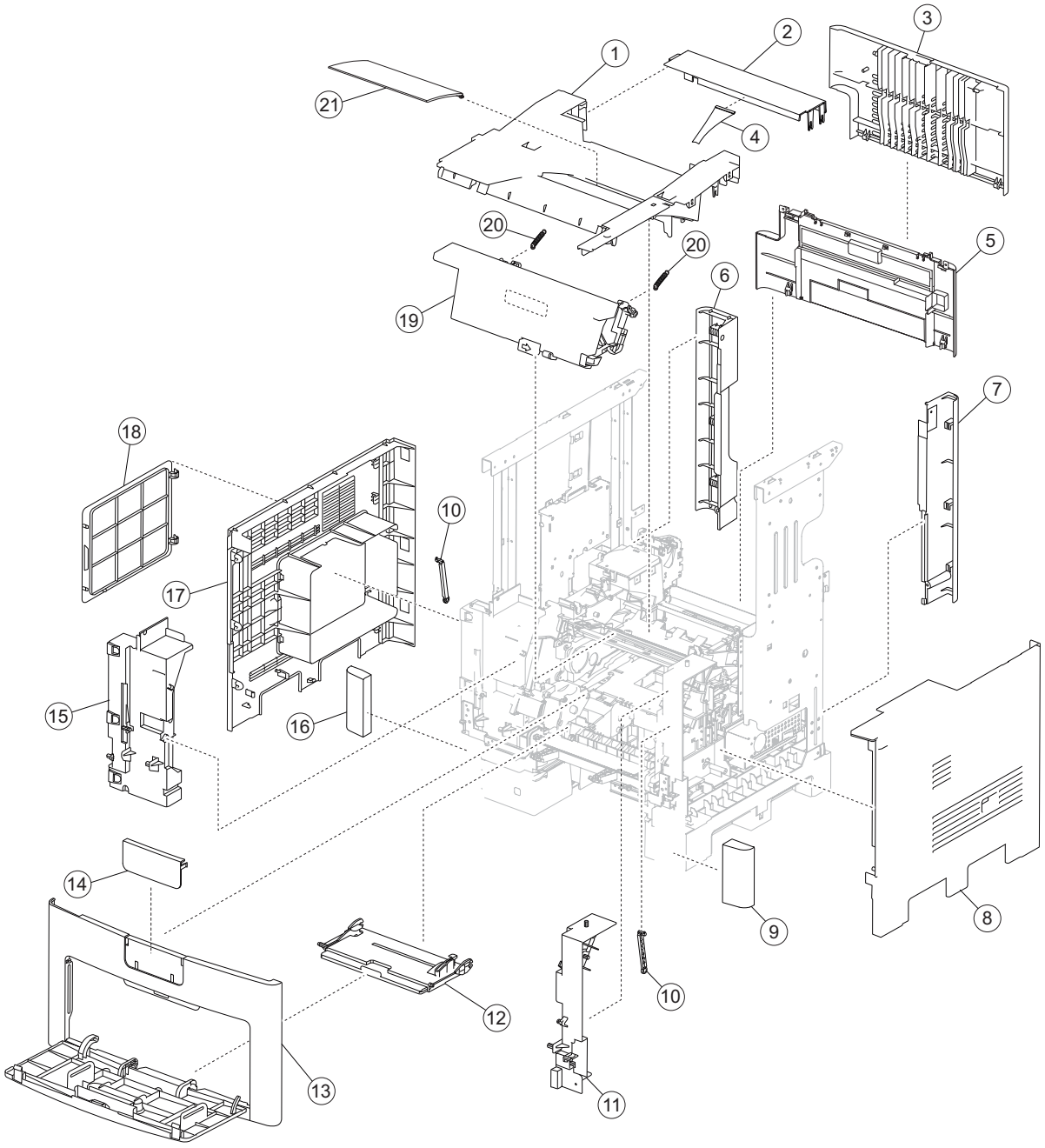
Assembly 1: Covers (X651, X652/5535dn, X654, and X656)



Assembly 1: Covers (X651, X652/5535dn, X654, and X656)

Asm-index	Part number	Units/ option	Units/ FRU	Description
1	40X2169	1	1	Scanner cover plug, rear (X651)
2	40X4506	1	1	Scanner cover, rear
3	40X4508	1	1	Scanner cover, right (X651, X652, X654, and X656)
4	40X4509	1	1	Scanner support platform (X651, X652, X654, and X656)
5	40X1919	1	1	Output cover assembly (X651, X652, X654, and X656)
6	40X4331	1	1	Door assembly, rear
7	40X4470	1	1	Output bail
8	40X4417	1	1	Fuser wiper cover
9	40X1918	1	1	Laser cover assembly, 550 sheet(X651, X652, X654, and X656)
10	40X4335	1	1	Cover assembly, rear lower
11	40X4629	1	1	Connection bezel assembly, rear
12	40X1917	1	1	Side cover, right (X651, X652, X654, and X656)
13	40X1972	1	1	Inner cover, right (X651, X652, X654, and X656)
14	40X2045	1	1	Operator panel cable assembly (X651, X652, X654, and X656)
15	40X2089	1	1	MPF tray door assembly (X651, X652, X654, and X656)
16	40X2077	2	1	Counter balance spring (X651, X652, X654, and X656)
17	40X2078	2	1	Spring connector (X651, X652, X654, and X656)
18	40X4631	1	1	Operator panel door latch assembly (MFP X651, X652, X654, and X656)
19	40X4377	1	1	USB cable assembly (X651, X652, X654, and X656)
20	40X4503	1	1	Operator panel door assembly with hinges (X654 and X656)
20	40X2149	1	1	Operator panel door assembly with hinges (X651 and X652)
21	40X4000	1	1	X654de touch screen bezel
21	40X4121	1	1	X656de touch screen bezel
21	40X4123	1	1	X651de touch screen bezel
21	40X5757	1	1	X652de touch screen bezel
22	40X1971	1	1	Inner cover, left (X651, X652, X654, and X656)
23	40X1916	1	1	Side cover, left (X651, X652, X654, and X656)
24	40X4481	1	1	Access door (X651, X652, X654, and X656)
25	40X1973	1	1	Media support (X651, X652, X654, and X656)
26	40X4598	1	1	Card reader cover assembly (X651, X652, X654, and X656)
27	40X4604	1	1	Card reader assembly (5125 contact/HID)
27	40X4602	1	1	Card reader assembly (3121 contact)
27	40X4603	1	1	Card reader assembly (5121 contact/RFID)
28	40X2638	1	1	Standard output bin LED assembly (X651, X652, X654, and X656)
29	40X2643	1	1	Standard output bin LED cable assembly
30	40X4601	1	1	Card reader cable assembly (X651, X652, X654, and X656)
31	40X4505	1	1	Scanner cover, front (X651, X652, X654, and X656)
32	40X4507	1	1	Scanner cover, left (X651, X652, X654, and X656)

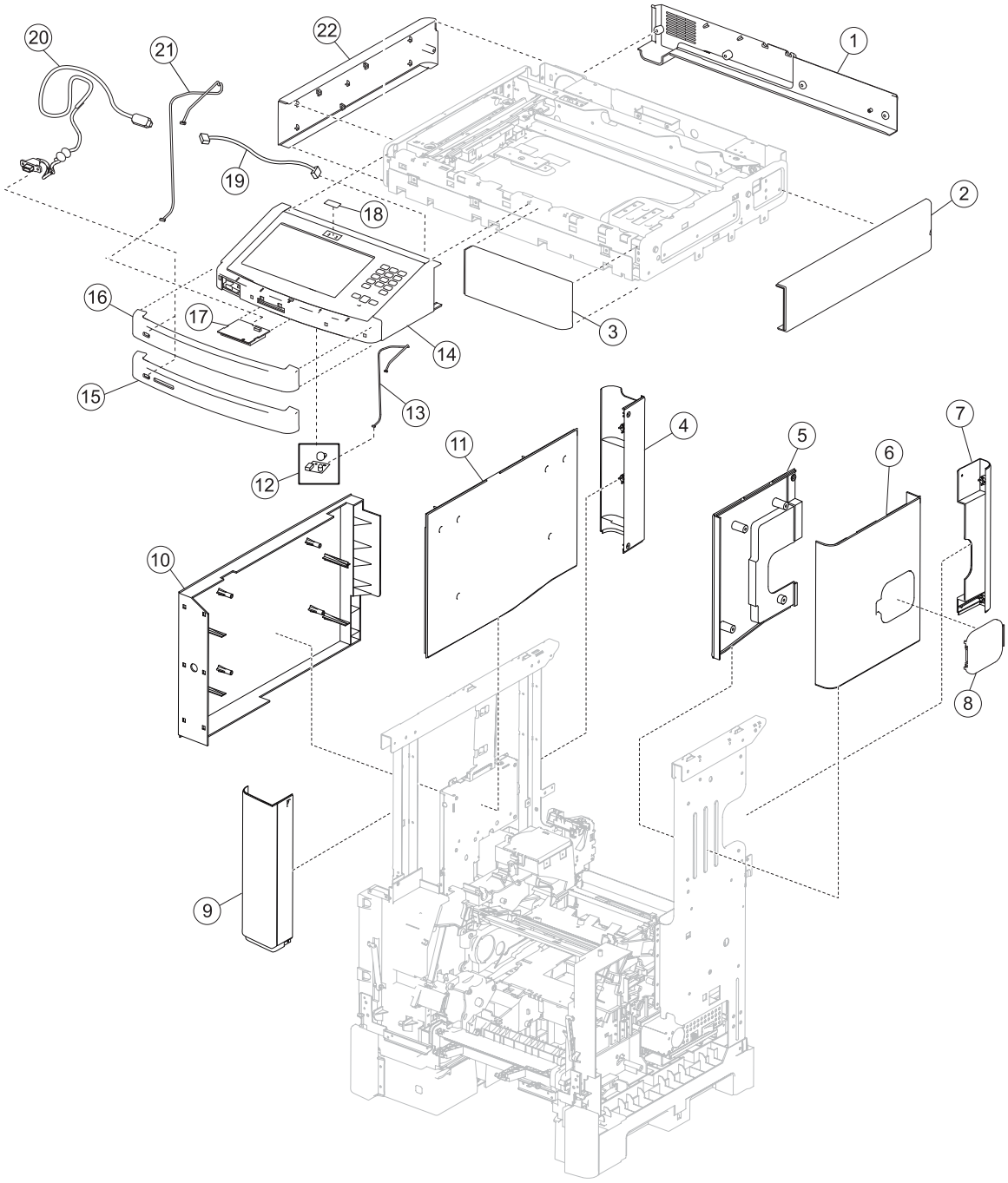
Assembly 2: Covers 1 (X658)



Assembly 2: Covers 1 (X658)

Asm-index	Part number	Units/ option	Units/ FRU	Description
1	40X1970	1	1	Laser cover assembly, 550 sheet (X658)
2	40X4480	1	1	Output cover assembly (X658)
3	40X4331	1	1	Door assembly, rear
4	40X4470	1	1	Output bail
5	40X4335	1	1	Cover assembly, rear lower
6	40X4477	1	1	Corner cover, left rear (X658)
7	40X4479	1	1	Corner cover, right rear (X658)
8	40X4478	1	1	Side cover, right (X658)
9	40X1976	1	1	Tray cover, right (X658)
10	40X4483	2	1	MPF tray cover support strap (X658)
11	40X4485	1	1	Inner cover, right (X658)
12	40X7047	1	1	MPF media guide assembly (X658)
13	40X2016	1	1	MPF tray cover assembly (X658)
14	40X1915	1	1	Model door bezel (X658)
15	40X4484	1	1	Inner cover, left (X658)
16	40X1975	1	1	Tray cover, left (X658)
17	40X4476	1	1	Side cover, left (X658)
18	40X4475	1	1	Access door (X658)
19	40X1977	1	1	Print cartridge cover assembly (X658)
20	40X4489	2	1	Print cartridge recoil spring (X658)
21	40X2017	1	1	Media support (X658)

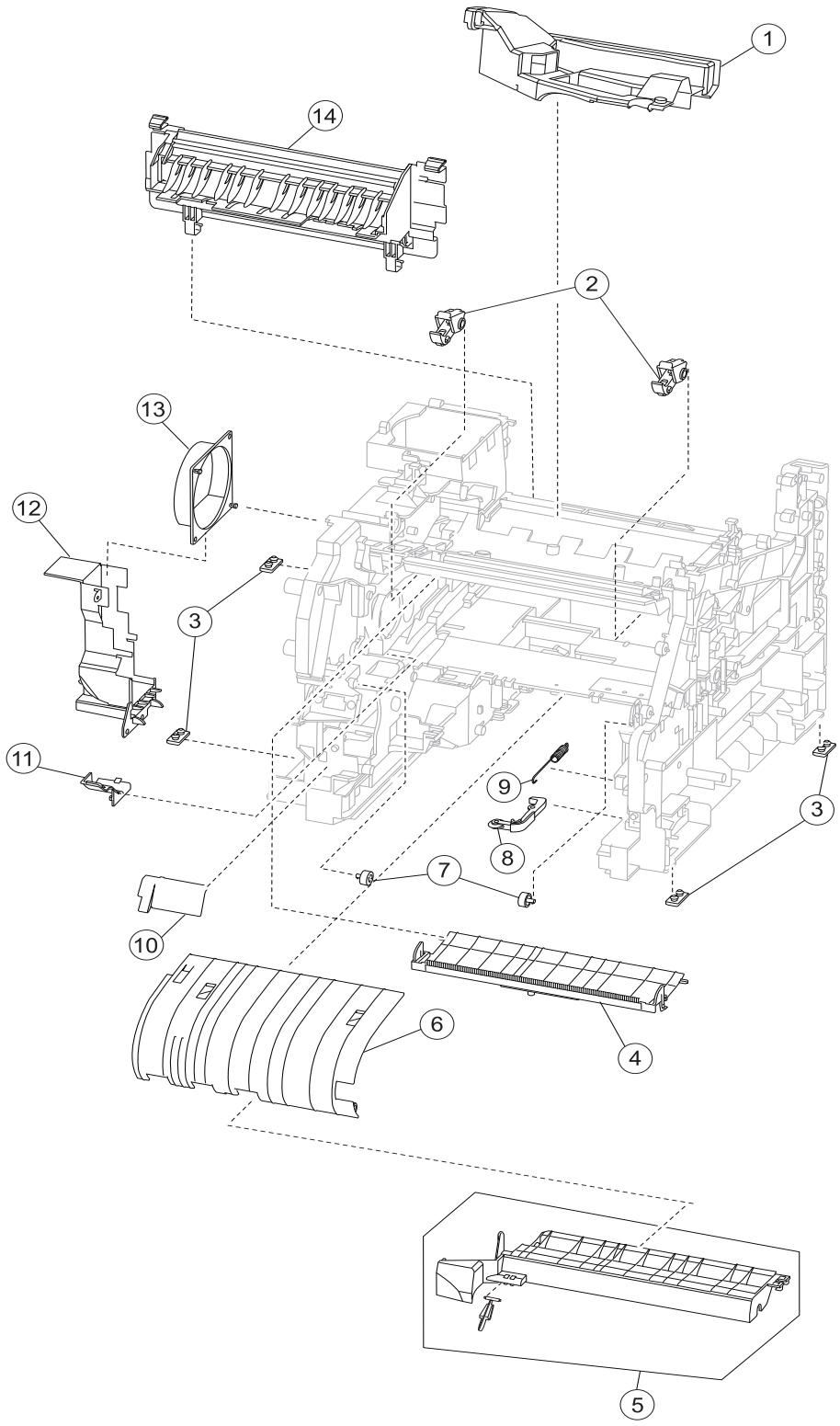
Assembly 3: Covers 2 (X658)



Assembly 3: Covers 2 (X658)

Asm-index	Part number	Units/ option	Units/ FRU	Description
1	40X4510	1	1	Scanner cover, rear (X658)
2	40X4511	1	1	Scanner cover, right (X658)
3	40X4513	1	1	Scanner cover, front (X658)
4	40X4516	1	1	Scanner support cover, left rear (X658)
5	40X4520	1	1	Scanner support inner cover, right (X658)
6	40X4517	1	1	Scanner support cover, right (X658)
7	40X4518	1	1	Scanner support cover, right rear (X658)
8	40X1974	1	1	Stapler access cover (X658)
9	40X4514	1	1	Scanner support cover, left front (X658)
10	40X4515	1	1	Scanner support cover, left (X658)
11	40X4519	1	1	Scanner support inner cover, left (X658)
12	40X4525	1	1	Standard output bin LED assembly
13	40X4499	1	1	Standard output bin LED cable assembly (X656)
14	40X4504	1	1	Operator panel assembly (X658)
15	40X4599	1	1	Operator panel cover with card reader slot (X658)
16	40X2018	1	1	Operator panel front cover (X658)
17	40X4602	1	1	Card reader assembly (3121 contact)
17	40X4603	1	1	Card reader assembly (5121 contact/RFID)
17	40X4604	1	1	Card reader assembly (5125 contact/HID)
18	40X4491	1	1	Operator panel bezel (X658)
19	40X4492	1	1	Operator panel cable assembly (X658)
20	40X4500	1	1‘	USB cable assembly (X658)
21	40X4600	1	1	Card reader cable assembly (X658)
22	40X4512	1	1	Scanner cover, left (X658)

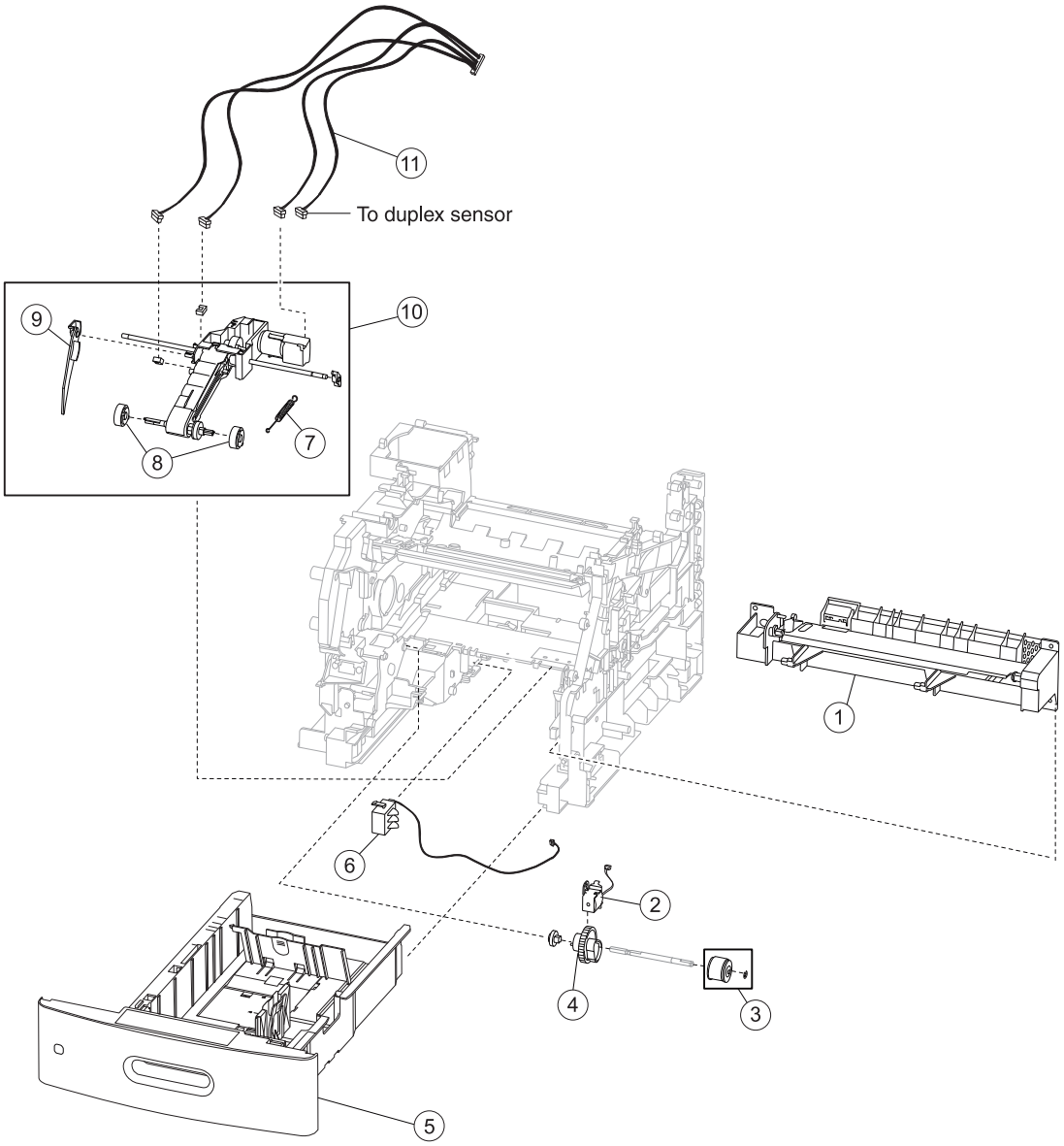
Assembly 4: Media path and ducts



Assembly 4: Media path and ducts

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4384	1	1	EP cooling fan duct
2	40X1868	2	1	Print cartridge clamp assembly
3	40X4390	4	1	Machine pad
4	40X1869	1	1	Transfer deflector with static brush
5	40X1900	1	1	Media turn guide with actuator
6	40X4388	1	1	Inner deflector
7	40X4406	2	1	Print cartridge support roller
8	40X4395	1	1	Tray roller catch assembly
9	40X4394	1	1	Tray catch spring
10	40X4385	1	1	Envelope feeder interface cover (X658 only)
11	40X1876	1	1	MPF gear shield
12	40X4389	1	1	LVPS cooling duct
13	40X4486	1	1	Main cooling fan duct (X658DE)
13	40X4392	1	1	Main cooling duct (X651, X652, X654, and X656)
14	40X4318	1	1	Fuser access door assembly

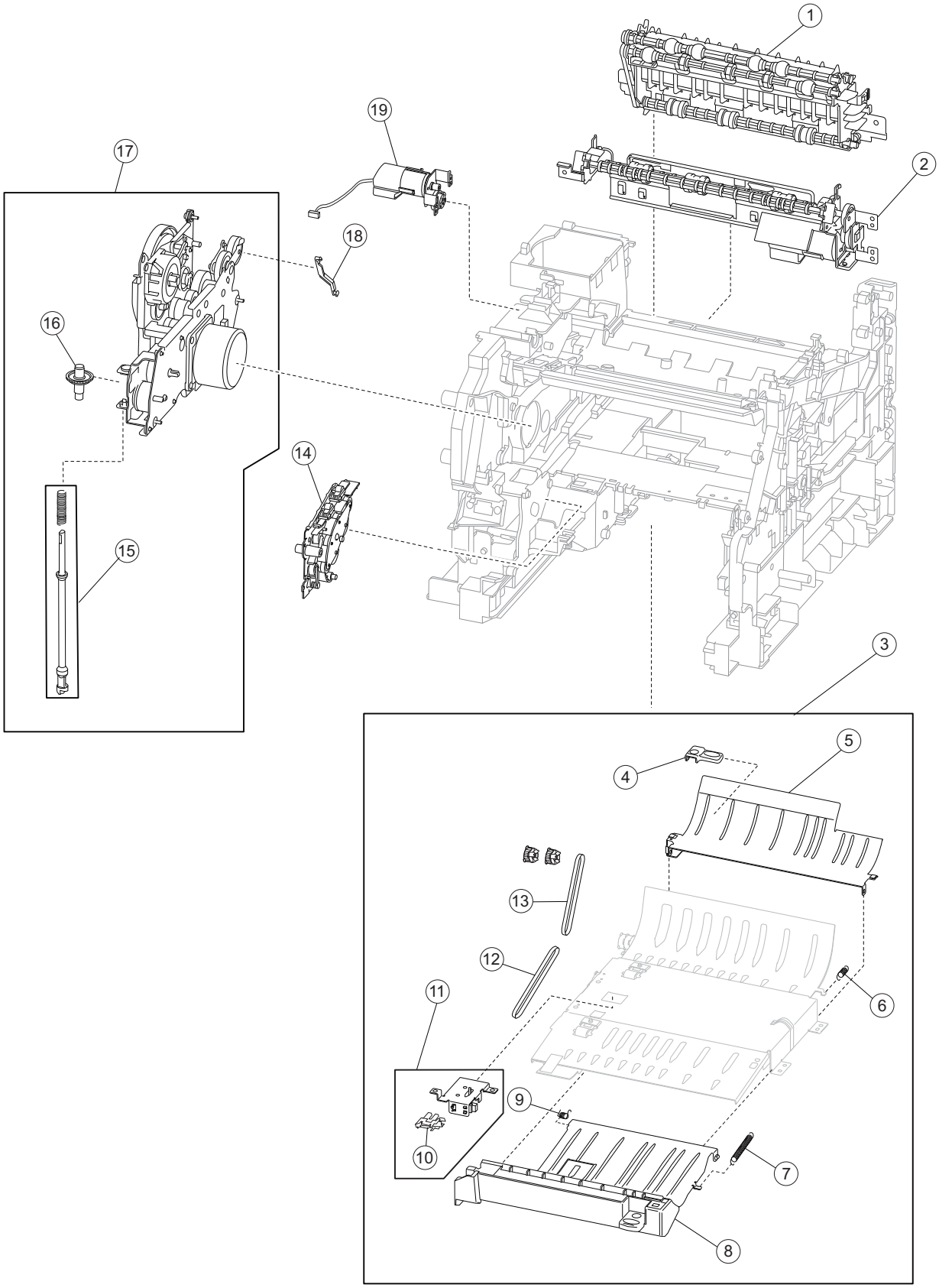
Assembly 5: Pick arm and media tray assemblies



Assembly 5: Pick arm and media tray assemblies

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4459	1	1	MPF lift plate assembly (X651, X652, X654, and X656)
1	40X4425	1	1	MPF lift plate assembly with spring (X658)
2	40X4365	1	1	MPF pick solenoid assembly
3	40X1883	1	1	MPF pick roll assembly with flange and clip
4	40X4457	1	1	MPF cam gear
5	40X4469	1	1	Media tray assembly, 550 sheet (X651, X652, X654, and X656)
5	40X2164	1	1	Media tray assembly (X658)
6	40X4472	1	1	Switch (media size assembly)
7	40X4307	1	1	Pick arm spring
8	40X4308	1	2	Pick roll assembly (2)
9	40X4310	1	1	550 Sheet media out actuator
10	40X4305	1	1	550 Sheet pick arm assembly with spring
11	40X4313	1	1	Pick arm sensor cable assembly

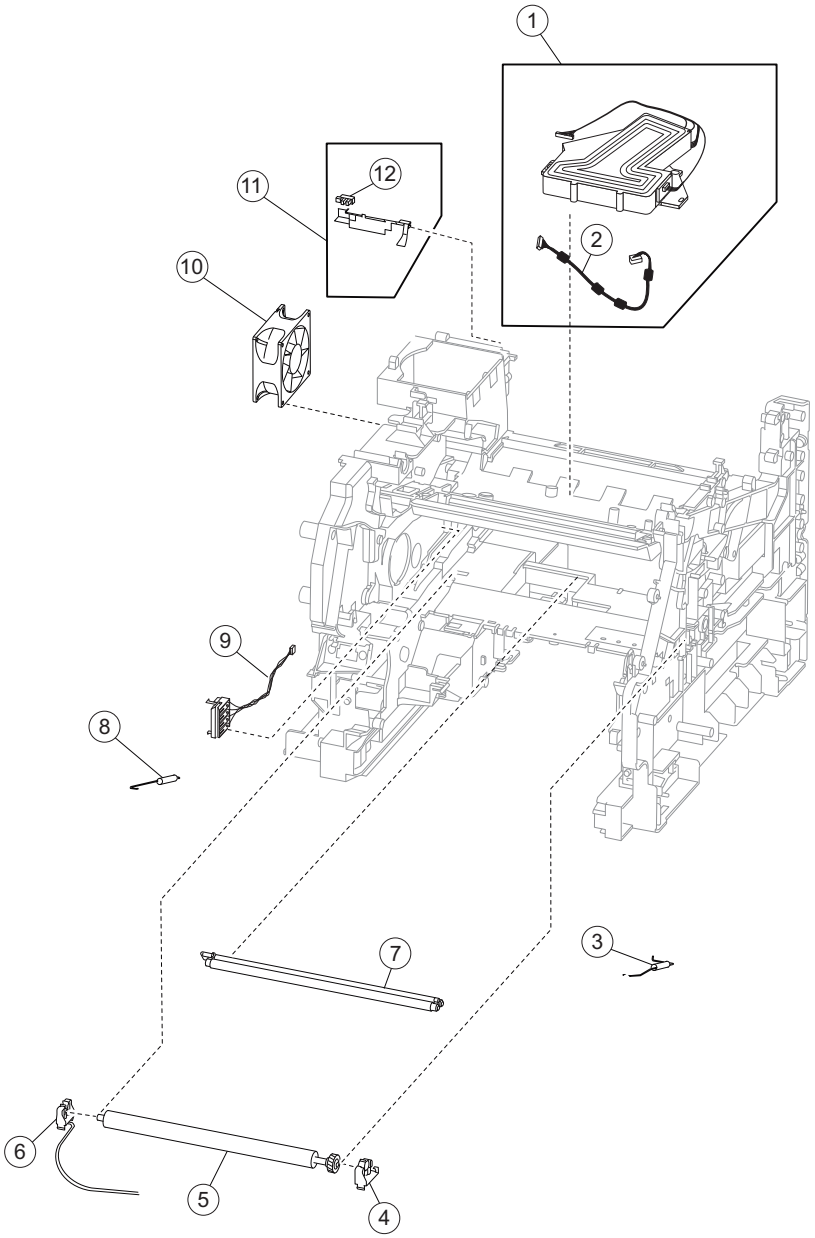
Assembly 6: Drive motor assembly, redrive, and duplex



Assembly 6: Drive motor assembly, redrive, and duplex

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4467	1	1	Redrive assembly
2	40X5851	1	1	Duplex drive motor assembly
3	40X4346	1	5	Duplex assembly with 2 belts and 2 pulleys
4	40X4351	1	1	Duplex guide handle
5	40X4352	1	1	Duplex guide, rear
6	40X4353	1	1	Duplex guide spring, rear
7	40X4349	1	1	Duplex guide spring, right
8	40X4348	1	1	Duplex guide assembly, front
9	40X5551	1	1	Duplex guide spring, left
10	40X4369	1	1	Sensor (duplex input)
11	40X4345	1	1	Duplex input sensor assembly
12	40X4350	1	1	Duplex drive belt, lower
13	40X4354	1	1	Duplex drive belt, upper
14	40X4303	1	3	Alignment assembly with ground strap and adj. screw
15	40X4473	1	2	Option drive shaft with spring
16	99A0954	1	1	Bevel gear with grease packet and washer • Bevel gear (1) • Instruction sheet (1) • Grease packet (1)
17	40X5749	1	1	Main drive motor assembly with option drive shaft
18	40X4386	1	1	Fuser drive release linkage
19	40X5850	1	1	Redrive motor assembly

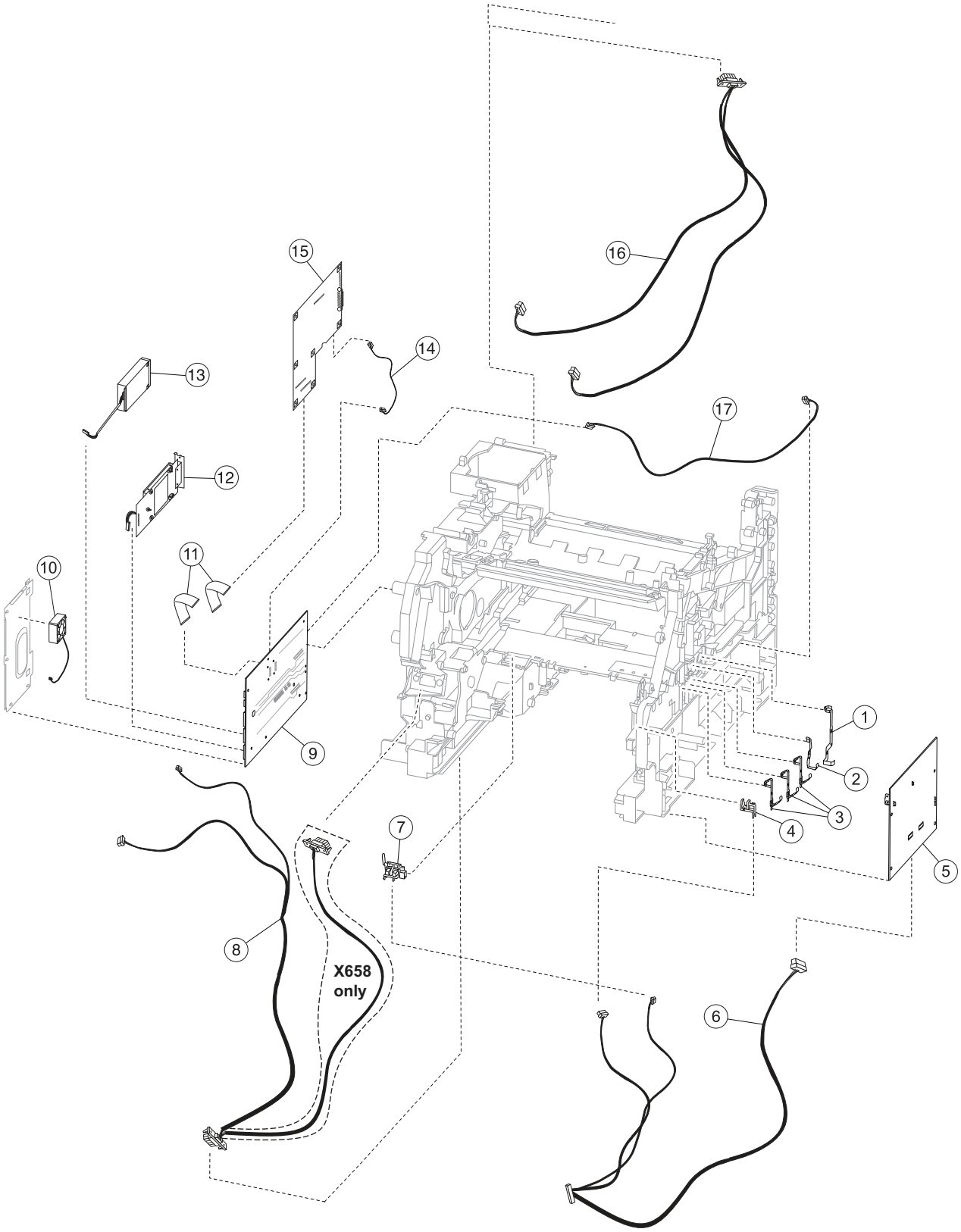
Assembly 7: Printhead, charge, and transfer assembly



Assembly 7: Printhead, charge, and transfer assembly

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4464	1	2	Printhead with cable assembly
2	40X1865	1	1	Printhead cable assembly
3	40X4317	1	1	Charge roll link spring, right
4	40X1888	1	2	Transfer roll bracket assembly, right
5	40X1886	1	1	Transfer roll assembly with tool
6	40X1887	1	2	Transfer roll bracket with cable assembly, left
7	40X5852	1	1	Charge roll assembly with tool
8	40X4316	1	1	Charge roll link spring, left
9	40X1864	1	1	Print cartridge ID connector assembly
10	40X4364	1	1	Main cooling fan
11	40X4372	1	1	Sensor (standard bin exit) actuator assembly
12	40X4369	1	1	Sensor (standard bin exit)

Assembly 8: System card, HVPS and scanner controller card assemblies



Assembly 8: System card, HVPS and scanner controller card assemblies

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4383	1	1	Cleaning blade contact
2	40X4381	1	1	Drum grounding contact
3	40X4382	3	1	Print cartridge HV contact
4	40X4370	1	1	Sensor (toner empty)
5	40X4362	1	1	HVPS card assembly
6	40X4361	1	1	HVPS / sensor cable assembly
7	40X4368	1	1	Sensor (input)
8	40X2019	1	1	Envelope / input option cable assembly (X658)
8	40X5848	1	1	Envelope / input option cable assembly (X651, X652, X654, and X656)
9	40X4501	1	1	System card assembly
10	40X7035	1	1	Hard drive cooling fan
11	40X4493	2	1	Scanner controller card interface cable assembly
12	40X4822	1	1	Hard drive assembly with board
12	40X5057	1	1	Hard drive assembly with board (TTA)
13	40X4821	1	1	Fax modem assembly with board
14	40X4496	1	1	Scanner controller card power cable assembly
15	40X2074	1	1	Scanner controller card assembly (X651 and X652)
15	40X2075	1	1	Scanner controller card assembly (X654, X656, and X658)
16	40X4376	1	1	Output option interface cable assembly (X658)
17	40X4498	1	1	LVPS cooling fan cable assembly

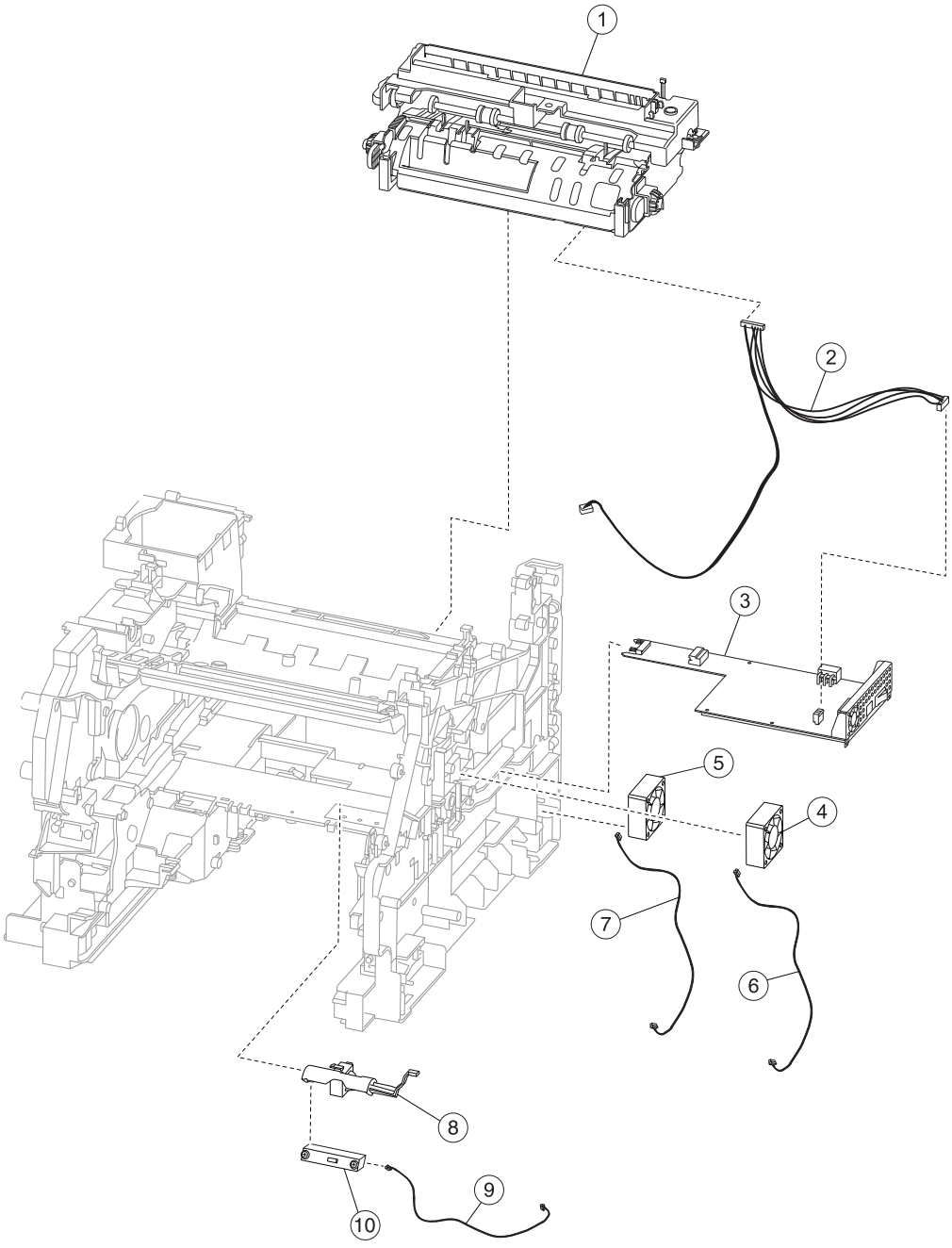
Warning: When replacing any of the following components:

- Scanner interface card assembly
- System card assembly
- Scanner unit assembly

Only replace one component at a time. replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

These components can be used as a method of troubleshooting as long as the machine is booted into diagnostic mode or is operating in diagnostic mode. Once a component has been installed in a machine and powered up into user mode, it cannot be used in another machine. It must be returned to the manufacturer.

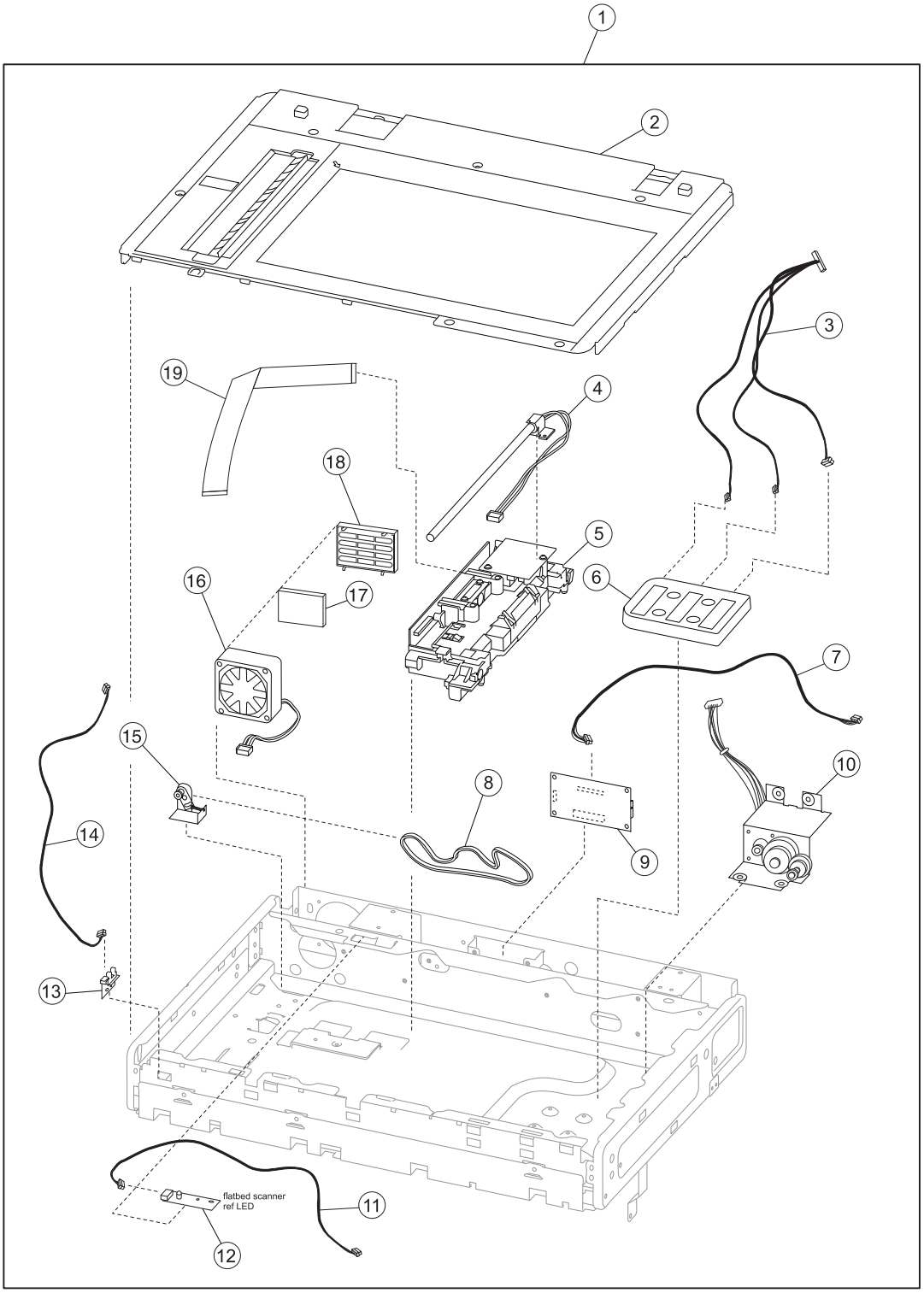
Assembly 9: Fuser and LVPS card assemblies



Assembly 9: Fuser and LVPS card assemblies

Asm-index	Part number	Units/ option	Units/ FRU	Description
1	40X1870	1	1	Fuser assembly 100V, type 1
1	40X4418	1	1	Fuser assembly 110V, type 1
1	40X1871	1	1	Fuser assembly 220V, type 1
1	40X5853	1	1	Fuser assembly 100V, type 2
1	40X5854	1	1	Fuser assembly 110V, type 2
1	40X5855	1	1	Fuser assembly 220V, type 2
2	40X4419	1	1	Fuser interface cable assembly
3	40X2062	1	1	LVPS card assembly (X651, X652, X654, and X656)
3	40X2072	1	1	LVPS card assembly (X658)
4	40X4359	1	1	Print cartridge cooling fan
5	40X4356	1	1	Duplex cooling fan
6	40X4360	1	1	Print cartridge cooling fan cable assembly
7	40X4357	1	1	Duplex cooling fan cable assembly
8	40X1866	1	1	Sensor shield assembly
9	40X4379	1	1	Toner density sensor cable assembly
10	40X4378	1	1	Sensor (toner density)

Assembly 10: Flatbed scanner



Assembly 10: Flatbed scanner

Asm-index	Part number	Units/ option	Units/ FRU	Description
1	40X2165	1	1	Scanner unit assembly (X651, X652, X654, and X656)
1	40X2166	1	1	Scanner unit assembly (X658)
2	40X2642	1	1	Scanner platen glass cover assembly
3	40X4530	1	1	Scanner FB length sensor cable assembly
4	40X4527	1	1	Scanner exposure lamp
5	40X4526	1	1	Scanner CCD assembly
6	40X4534	1	1	Sensor (platen glass length) assembly
7	40X2641‘	1	1	Flatbed scanner interface card cable assembly
8	40X4523	1	1	Carriage belt
9	40X2171	1	1	Scanner interface card assembly
10	40X4521	1	1	Carriage drive motor assembly with cable
11	40X4528	1	1	Scanner reference LED cable assembly
12	40X4532	1	1	Scanner reference LED assembly
13	40X4524	1	1	Sensor (scanner HP) with bracket
14	40X4529	1	1	Scanner HP sensor cable assembly
15	40X4522	1	1	Carriage belt tensioner assembly
16	40X4535	1	1	Scanner cooling fan
17	40X4536	1	1	Scanner cooling fan filter
18	40X7204	1	1	Scanner filter cover
19	40X4531	1	1	Scanner CCD ribbon cable (X658)
19	40X2172	1	1	Scanner CCD ribbon cable (X652, X654, and X656)

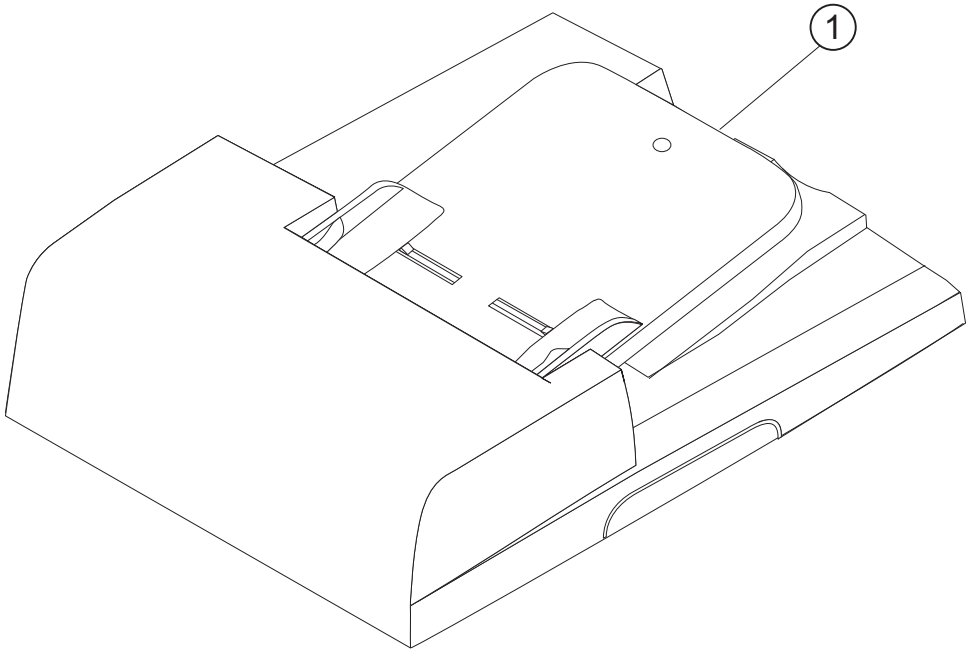
Warning: When replacing any of the following components:

- Scanner interface card assembly
- System card assembly
- Scanner unit assembly

Only replace one component at a time. replace the required component and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable. Never replace two or more of the components listed above without a POR after installing each one or the printer will be rendered inoperable.

These components can be used as a method of troubleshooting as long as the machine is booted into diagnostic mode or is operating in diagnostic mode. Once a component has been installed in a machine and powered up into user mode, it cannot be used in another machine. It must be returned to the manufacturer.

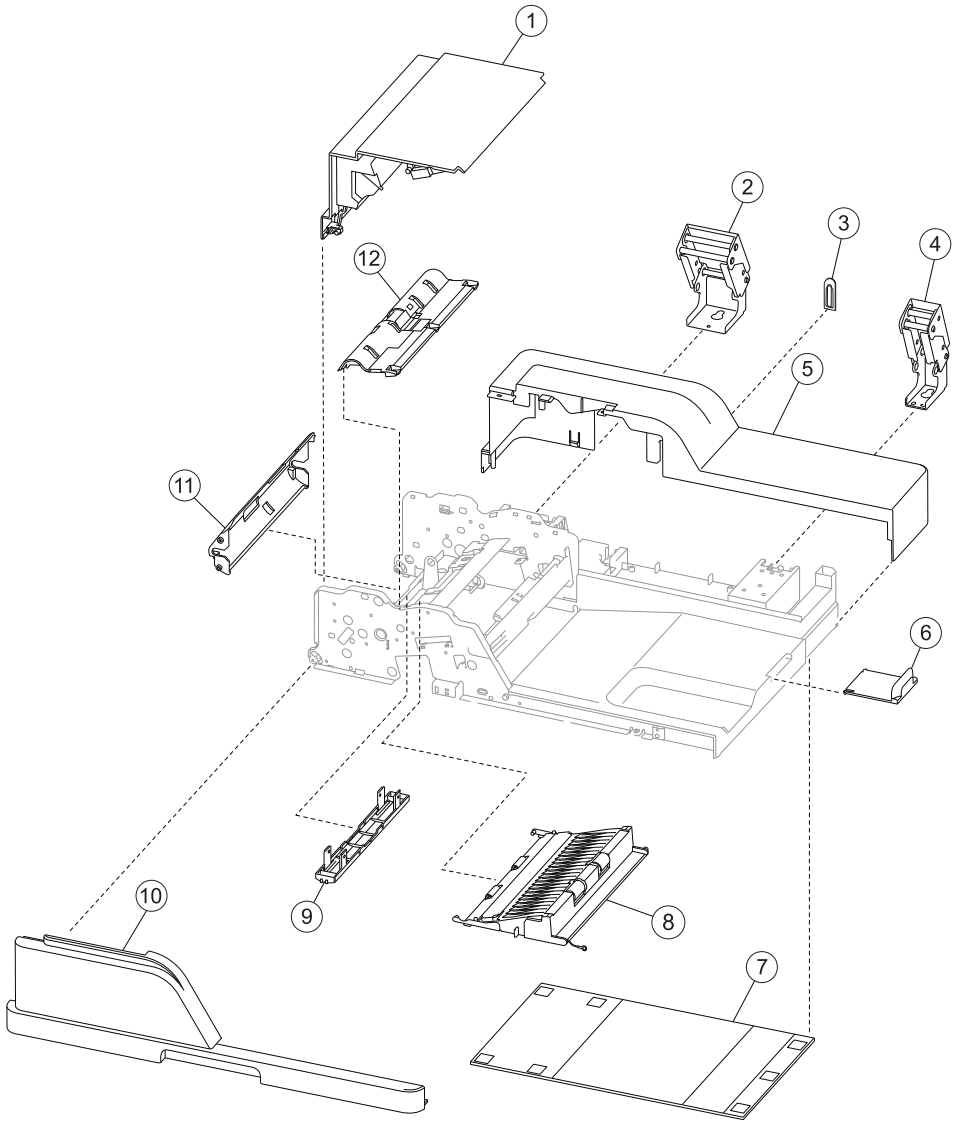
Assembly 11: ADF unit assembly



Assembly 11: ADF unit assembly

Asm-index	Part number	Units/ option	Units/ FRU	Description
1	40X2738	1	1	ADF unit assembly (X651 and X652)
1	40X2745	1	1	ADF unit assembly (X654, X656, and X658)

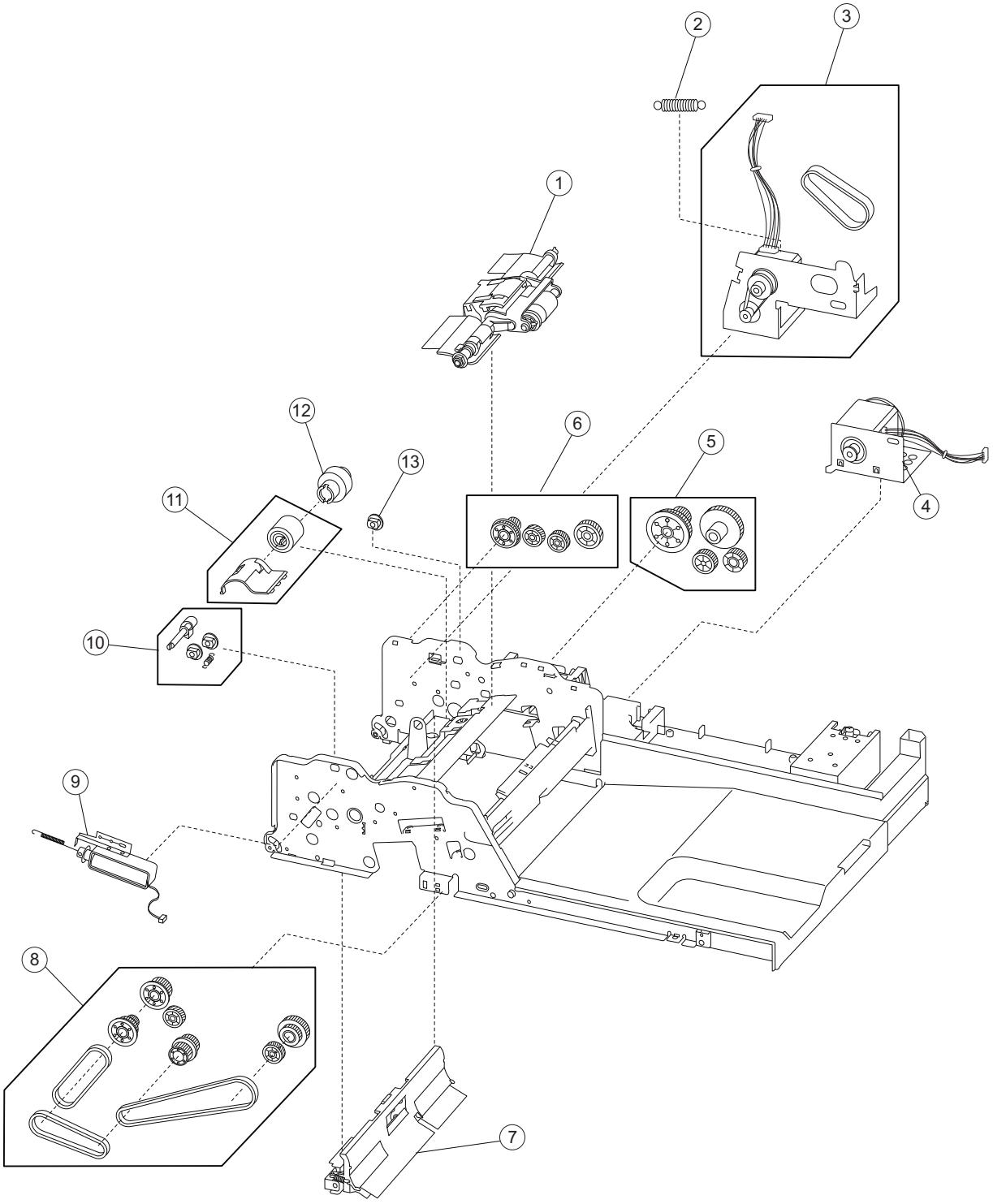
Assembly 12: ADF covers



Assembly 12: ADF covers

Asm-index	Part number	Units/ option	Units/ FRU	Description
1	40X4537	1	1	ADF top door assembly
2	40X3439	1	1	Left hinge assembly
3	40X2746	1	1	ADF cover cap, rear left (X651 and X652)
4	40X4563	1	1	Right hinge assembly
5	40X4539	1	1	ADF cover, rear
6	40X4564	1	1	Document tray extension
7	40X3444	1	1	ADF platen cushion
8	40X3392	1	1	ADF lower door assembly (X651 and X652)
8	40X3438	1	1	ADF lower door assembly (X654, X656, and X658)
9	40X3445	1	1	Media pinch pad assembly
10	40X4538	1	1	ADF cover, front
11	40X4566	1	1	ADF turn guide
12	40X4562	1	1	Pick pad cover assembly

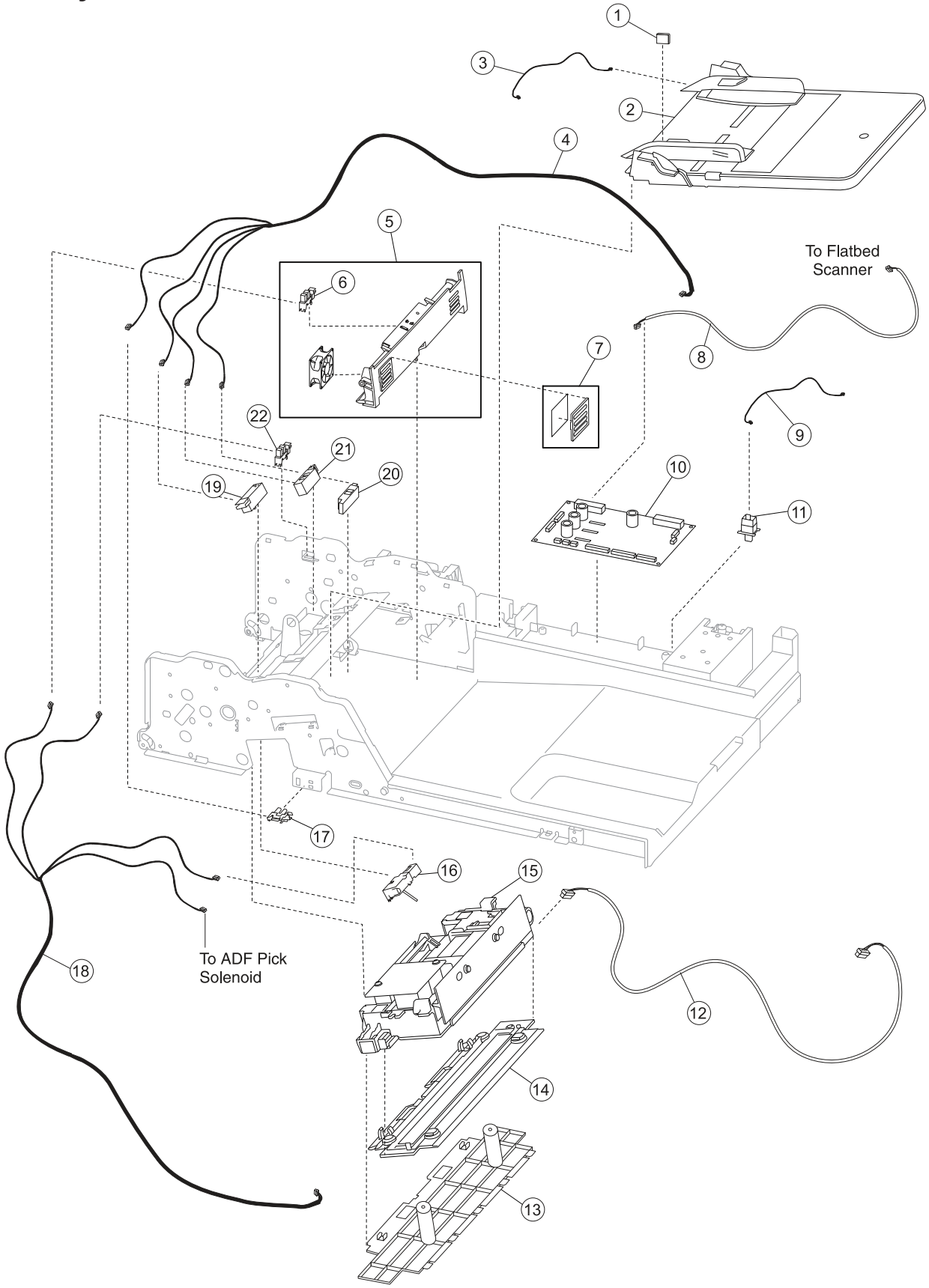
Assembly 13: ADF feed and drive



Assembly 13: ADF feed and drive

Asm-index	Part number	Units/ option	Units/ FRU	Description
1	40X4540	1	1	ADF feed / pick roll assembly
2	40X4545	1	1	Spring
3	40X7213	1	3	Feed motor assembly with belt and cable
4	40X4544	1	1	Transport motor bracket assembly with cable
5	40X2759	1	4	Transport drive gear and pulley kit, rear
6	40X2749	1	4	Feed one-way bearing and gear kit
7	40X4542	1	1	Pinch roll assembly
8	40X2760	1	9	Transport drive gear, pulley, and belt kit, front
9	40X4548	1	1	ADF solenoid assembly
10	40X2761	1	4	Pick roll position cam assembly
11	40X4605	1	2	ADF separator roll and guide
12	40X7214	1	1	Torque limiter
13	40X2750	1	1	Bushing 6 mm

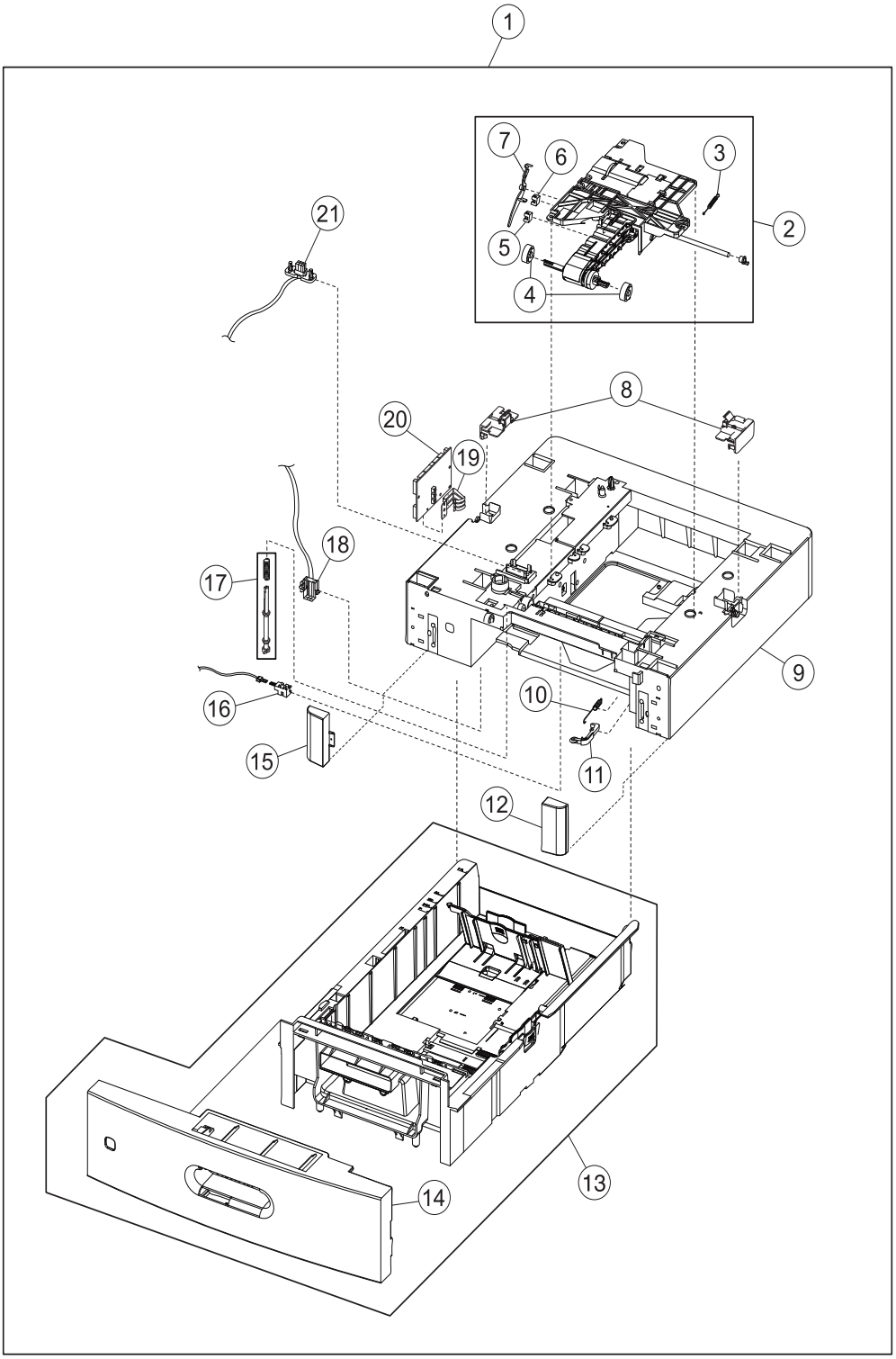
Assembly 14: ADF electronics



Assembly 14: ADF electronics

Asm-index	Part number	Units/ option	Units/ FRU	Description
1	40X6398	1	1	Spacer
2	40X4561	1	1	ADF document tray assembly
3	40X4559	1	1	ADF tray length cable assembly
4	40X4558	1	1	ADF sensor cable assembly 1
5	40X4606	1	1	Sensor (ADF media exit) bracket assembly (X651 and X652)
5	40X4607	1	1	Sensor (ADF media exit) bracket assembly with fan (X654, X656, and X658)
6	40X4549	1	1	Sensor (ADF media exit)
7	40X4608	1	1	ADF filter and cover (X654, X656, and X658)
8	40X4556	1	1	ADF interface cable assembly
9	40X4557	1	1	ADF closed interlock switch cable assembly
10	40X3142	1	1	ADF controller card assembly
11	40X4554	1	1	Switch (ADF closed interlock)
12	40X4555	1	1	Duplex CCD interface cable assembly (X654, X656, and X658)
13	40X3272	1	1	ADF duplex deletion insert (X651 and X652)
14	40X4565	1	1	ADF duplex CCD scan glass assembly (X654, X656, and X658)
15	40X4547	1	1	ADF duplex CCD assembly (X654, X656, and X658)
16	40X2762	1	1	Sensor (ADF 2nd scan)
17	40X4549	1	1	Sensor (ADF lower door interlock)
18	40X4560	1	1	ADF sensor cable assembly 2
19	40X4550	1	1	Sensor (ADF 1st scan)
20	40X4551	1	1	Sensor (ADF document set)
21	40X4550	1	1	Sensor (ADF sheet through)
22	40X4549	1	1	Sensor (ADF top door interlock)

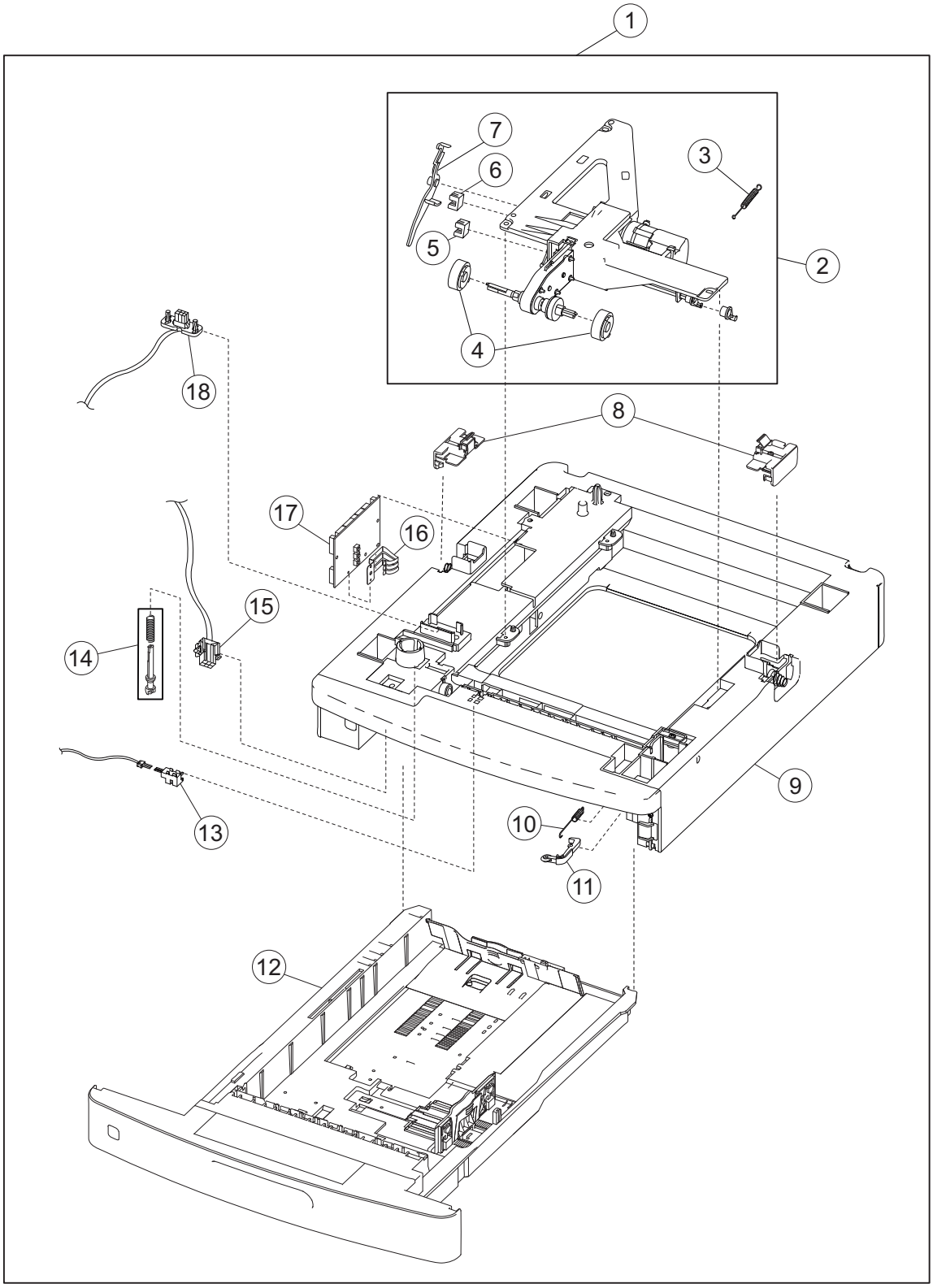
Assembly 15: 550 Sheet option tray assembly (X658)



Assembly 15: 550 Sheet option tray assembly (X658)

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X3967	1	1	Complete 550 sheet option tray assembly (X658)
2	40X3454	1	1	550 Sheet pick arm bracket assembly
3	40X4307	1	1	550 Sheet bellcrank recoil spring
4	40X4308	1	2	Pick roll assembly (2)
5	40X4369	1	1	Sensor (media low)
6	40X4369	1	1	Sensor (media empty)
7	40X4310	1	1	550 Sheet media out actuator
8	40X4570	2	2	Anti-tip latch assembly
9	40X5843	1	1	550 Sheet option drawer assembly
10	40X3822	1	1	Media tray catch spring
11	40X4395	1	1	Media tray roller catch assembly
12	40X1976	1	1	550 Sheet tray right cover
13	40X2164	1	1	Media tray assembly, 550 sheet
14	40X4130	1	1	Cover, 550 sheet tray front
15	40X1975	1	1	550 Sheet tray left cover
16	40X4575	1	1	Sensor (pass through) with cable
17	40X4473	1	2	550 Option drive shaft with spring
18	40X4572	1	1	Lower interface cable assembly
19	40X3854	1	1	Media size actuator
20	40X4578	1	1	550 Sheet tray controller card assembly
21	40X4571	1	1	Upper interface cable assembly

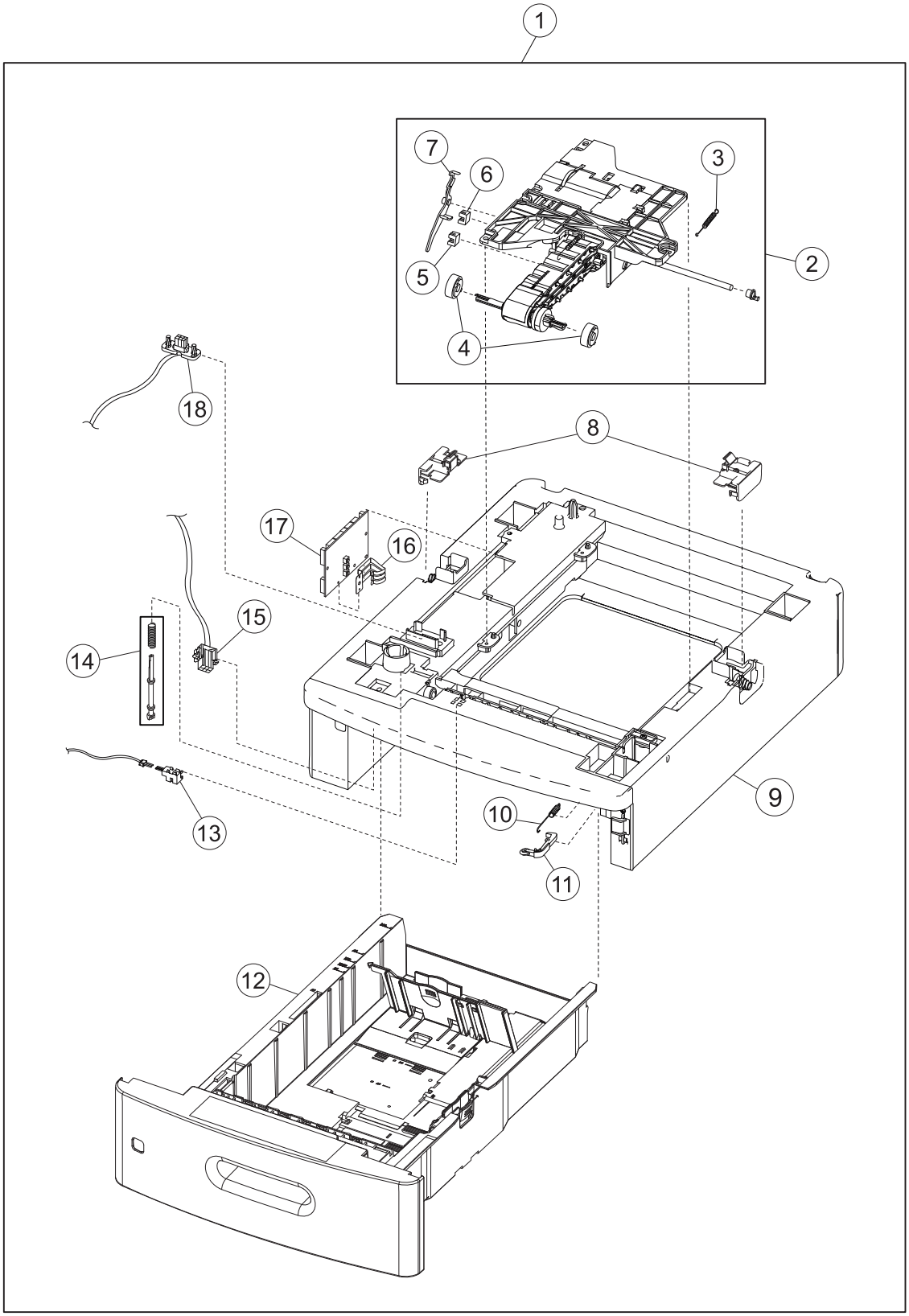
Assembly 16: 250 Sheet option tray assembly (X651, X652/5535dn, X654, and X656)



Assembly 16: 250 Sheet option tray assembly (X651, X652/5535dn, X654, and X656)

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4569	1	1	Complete 250 sheet option tray assembly
2	40X3447	1	1	250 Sheet pick arm bracket assembly
3	40X3448	1	1	250 Sheet bellcrank recoil spring
4	40X4308	2	1	Pick roll assembly (2)
5	40X4369	1	1	Sensor (media low)
6	40X4369	1	1	Sensor (media empty)
7	40X4309	1	1	250 Sheet media out actuator (X651 and X652)
8	40X4570	1	1	Anti-tip latch assembly
9	40X3453	1	1	250 Sheet option drawer assembly
10	40X3822	1	1	Media tray catch spring
11	40X4395	1	1	Media tray roller catch assembly
12	40X6391	1	1	Media tray assembly, 250 sheet
13	40X4575	1	1	Sensor (pass through) with cable
14	40X1863	1	1	250 Option drive shaft with spring
15	40X4572	1	1	Lower interface cable assembly
16	40X3854	1	1	Media size actuator
17	40X4574	1	1	250 Sheet controller card assembly
18	40X4571	1	1	Upper interface cable assembly

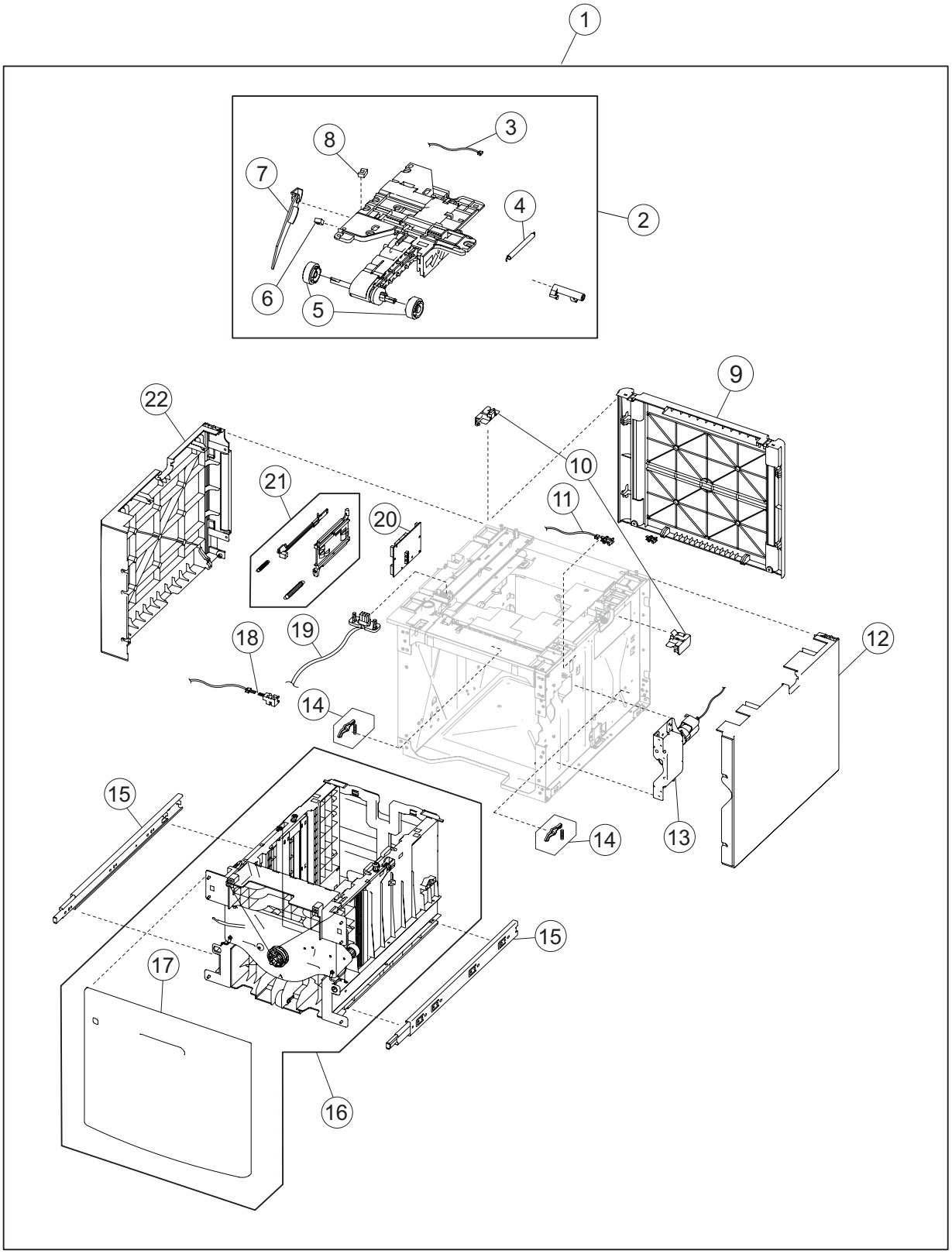
Assembly 17: 550 Sheet option tray assembly (X651, X652/5535dn, X654, and X656)



Assembly 17: 550 Sheet option tray assembly (X651, X652/5535dn, X654, and X656)

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4576	1	1	Complete 550 sheet option tray assembly
2	40X3454	1	1	550 Sheet pick arm bracket assembly
3	40X4307	1	1	550 Sheet bellcrank recoil spring
4	40X4308	1	2	Pick roll assembly (2)
5	40X4369	1	1	Sensor (media low)
6	40X4369	1	1	Sensor (media empty)
7	40X4310	1	1	550 Sheet media out actuator
8	40X4570	2	2	Anti-tip latch assembly
9	40X3957	1	1	550 Sheet option drawer assembly
10	40X3822	1	1	Media tray catch spring
11	40X4395	1	1	Media tray roller catch assembly
12	40X4469	1	1	Media tray assembly, 550 sheet
13	40X4575	1	1	Sensor (pass through) with cable
14	40X4473	1	1	550 Option drive shaft with spring
15	40X4572	1	1	Lower interface cable assembly
16	40X3854	1	1	Media size actuator
17	40X4578	1	1	550 Sheet controller card assembly
18	40X4571	1	1	Upper interface cable assembly

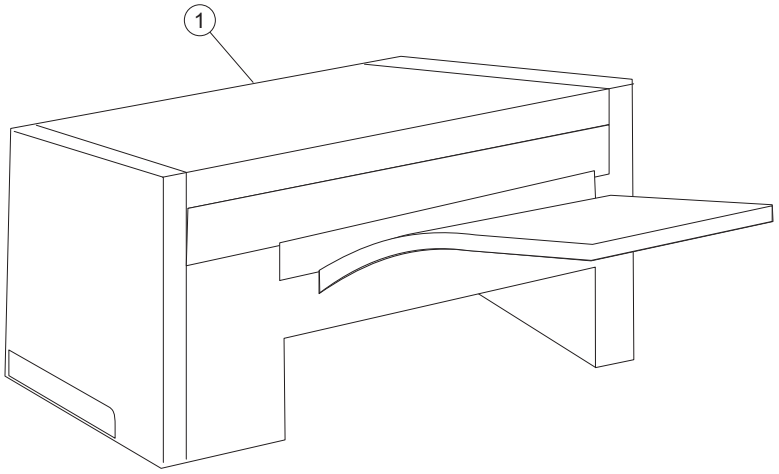
Assembly 18: HCIT Sheet option tray assembly (X651, X652/5535dn, X654, and X656)



Assembly 18: HCIT Sheet option tray assembly (X651, X652/5535dn, X654, and X656)

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4579	1	1	Complete HCIT option tray assembly
2	40X4590	1	2	HCIT pick arm bracket assembly
3	40X4595	1	1	Pick arm sensor cable assembly
4	40X4591	1	1	HCIT bellcrank recoil spring
5	40X4308	2	2	Pick roll assembly (2)
6	40X4369	2	1	Sensor (media low)
7	40X4310	1	1	550 Sheet media out actuator
8	40X4369	2	1	Sensor (media empty)
9	40X4581	1	1	HCIT cover, rear
10	40X4570	1	1	Anti-tip latch assembly
11	40X4588	1	1	Sensor (HCIT tray raised HP) with cable assembly
12	40X4582	1	1	HCIT cover, right
13	40X4586	1	1	HCIT tray lift drive motor assembly
14	40X4585	1	2	HCIT tray closed latch with spring
15	40X4593	2	1	HCIT drawer slide assembly
16	40X4580	1	2	HCIT media tray assembly
17	40X4584	1	1	HCIT tray cover, front
18	40X4589	1	2	Sensor (HCIT pass through) with cable
19	40X4594	1	1	HCIT interface cable assembly
20	40X4592	1	1	HCIT controller card assembly
21	40X4587	1	4	HCIT media size actuator assembly
22	40X4583	1	1	HCIT cover, left

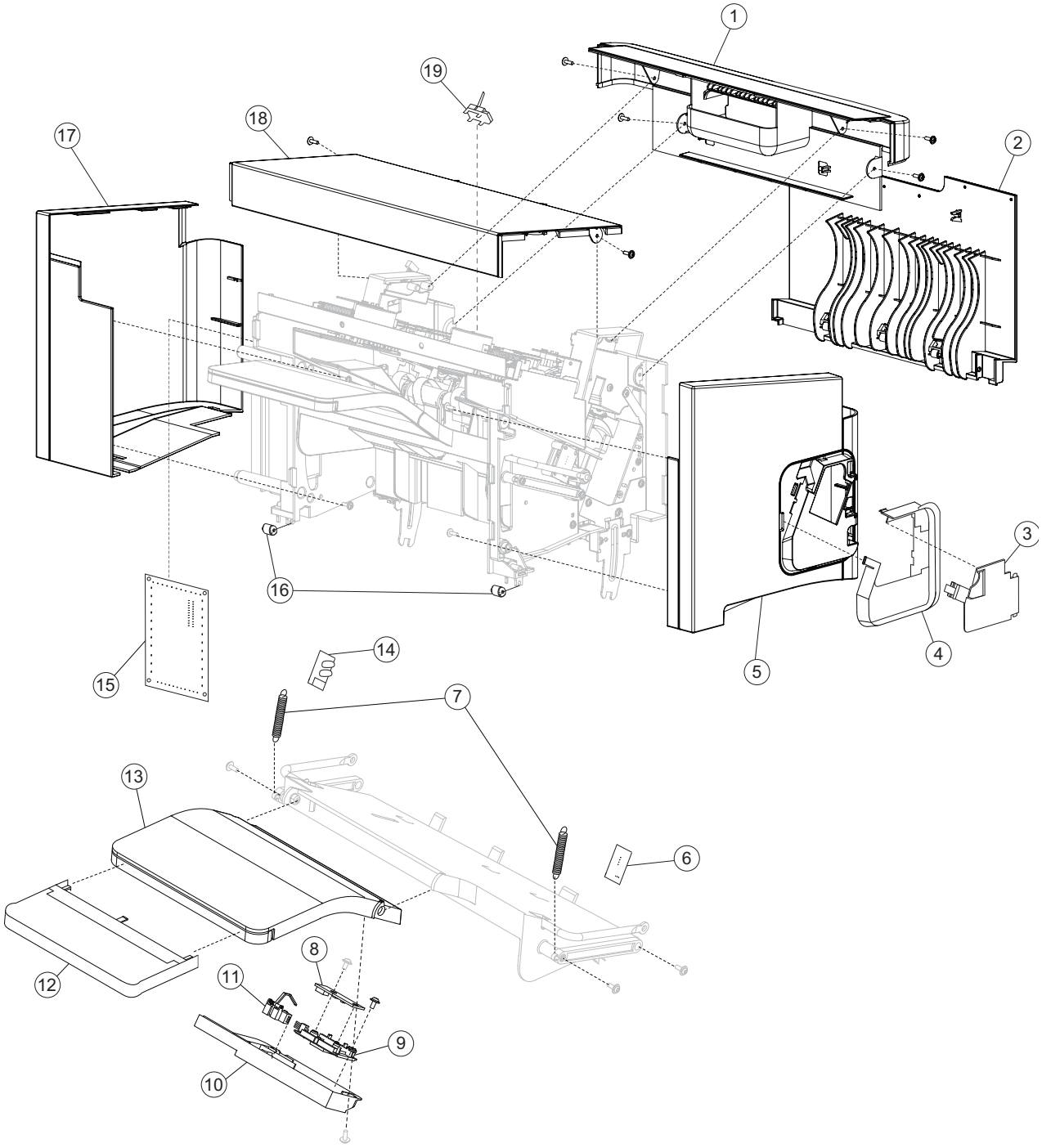
Assembly 19: MFP stapler assembly



Assembly 19: MFP stapler assembly #1

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X7026	1	1	MFP stapler assembly (comes completely assembled)

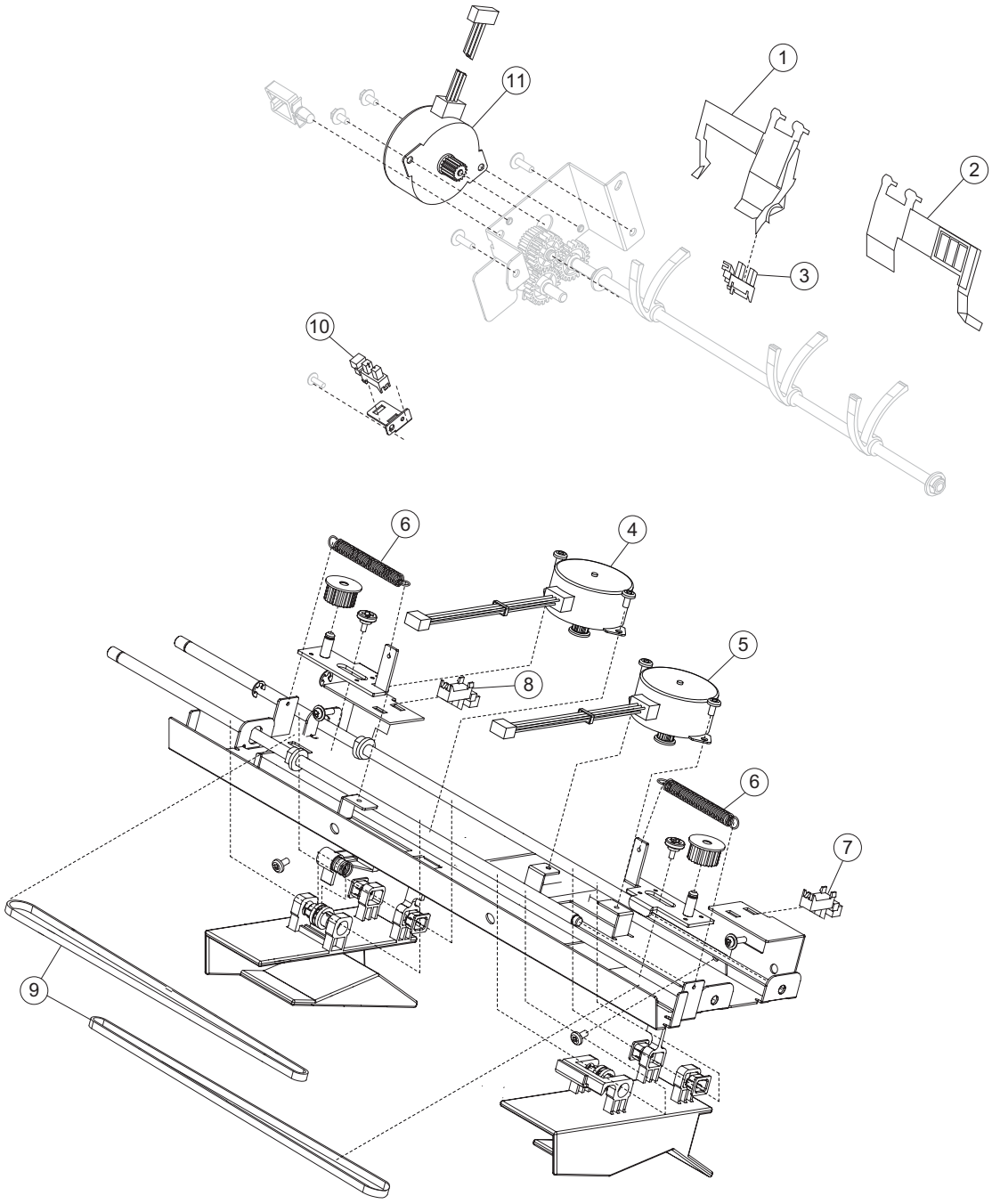
Assembly 20: MFP stapler assembly #2



Assembly 20: MFP stapler assembly #2

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4612	1	1	Handle cover
2	40X4613	1	1	Rear door assembly
3	40X4730	1	1	Stapler cover
4	40X4764	1	1	Hollow cover
5	40X4610	1	1	Right cover
6	40X5544	1	1	Sensor (bin full receive)
7	40X4617	1	2	Finisher bin spring
8	40X5545	1	1	Standard output bin LED
9	40X5727	1	1	LED clear lens
10	40X5720	1	1	LED sensor cover
11	40X4618	1	1	Sensor (finisher bin media present)
12	40X4619	1	1	Media output bin extension
13	40X5541	1	1	Media output bin
14	40X4626	1	1	Sensor (bin full send)
15	40X4625	1	1	Stapler/stacker controller card assembly
16	40X5751	1	1	Attach roller
17	40X4609	1	1	Left cover
18	40X4611	1	1	Top cover
19	40X5906	1	1	Sensor (stapler/stacker pass through)

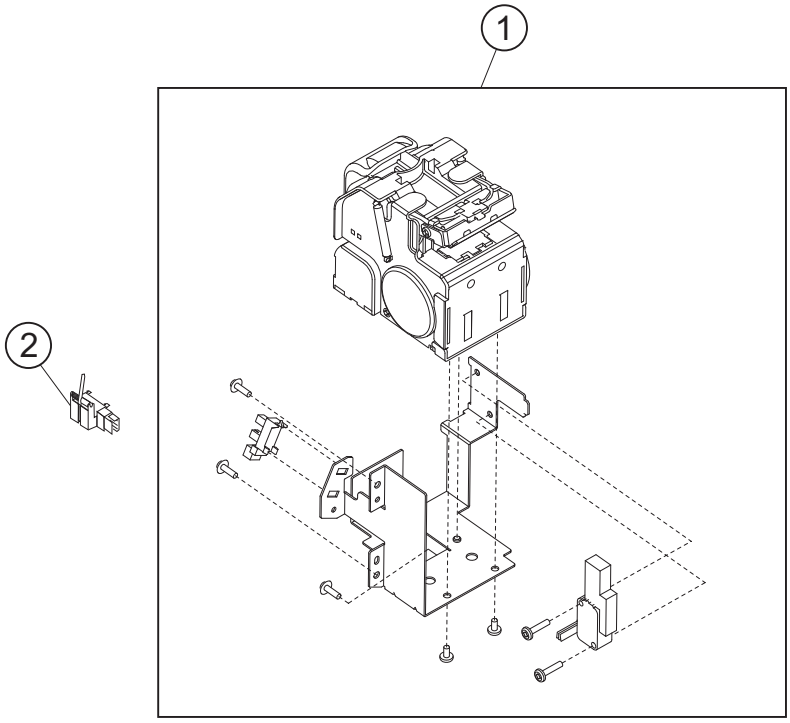
Assembly 21: MFP stapler assembly #3



Assembly 21: MFP stapler assembly #3

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4645	1	1	Media stack flap actuator
2	40X4646	1	1	Media stack flap
3	40X4369	1	1	Sensor (media stack)
4	40X4621	1	1	Left tamper motor assembly
5	40X4622	1	1	Right tamper motor assembly
6	40X4624	1	2	Tamper recoil spring
7	40X4369	1	1	Sensor (tamper HP right)
8	40X4369	1	1	Sensor (tamper HP left)
9	40X4623	1	1	Tamper drive belt
10	40X4369	1	1	Sensor (paddle HP)
11	40X4615	1	1	Paddle drive motor

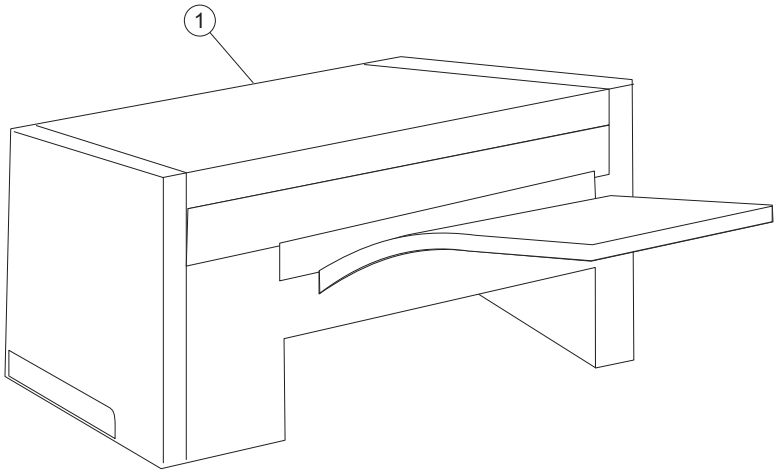
Assembly 22: MFP stapler assembly #4



Assembly 22: MFP stapler assembly #4

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4641	1	1	Stapler assembly
2	40X5909	1	1	Sensor (media in stapler)

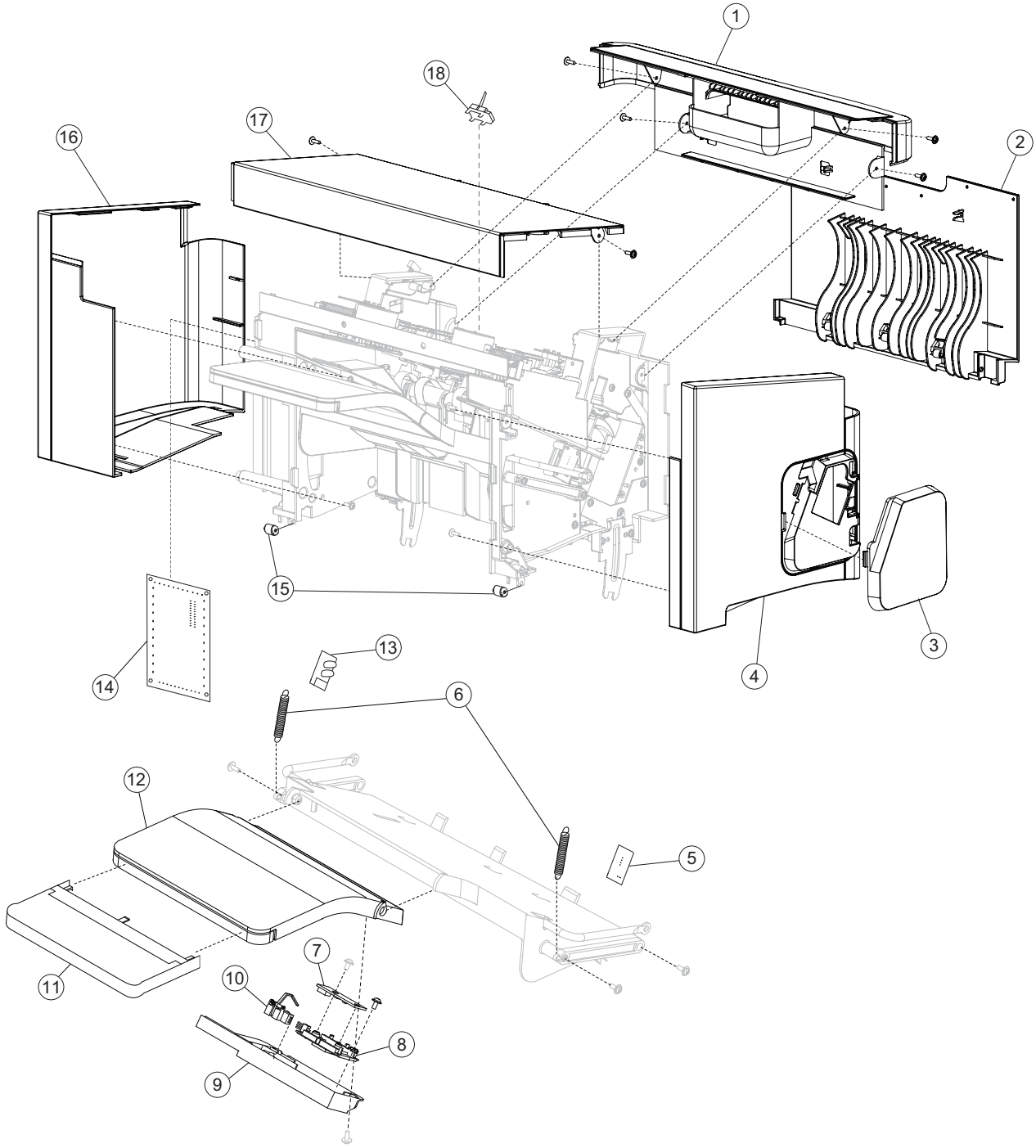
Assembly 23: MFP offset stacker assembly #1



Assembly 23: MFP offset stacker assembly #1

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X7025	1	1	MFP offset stacker assembly (comes completely assembled)

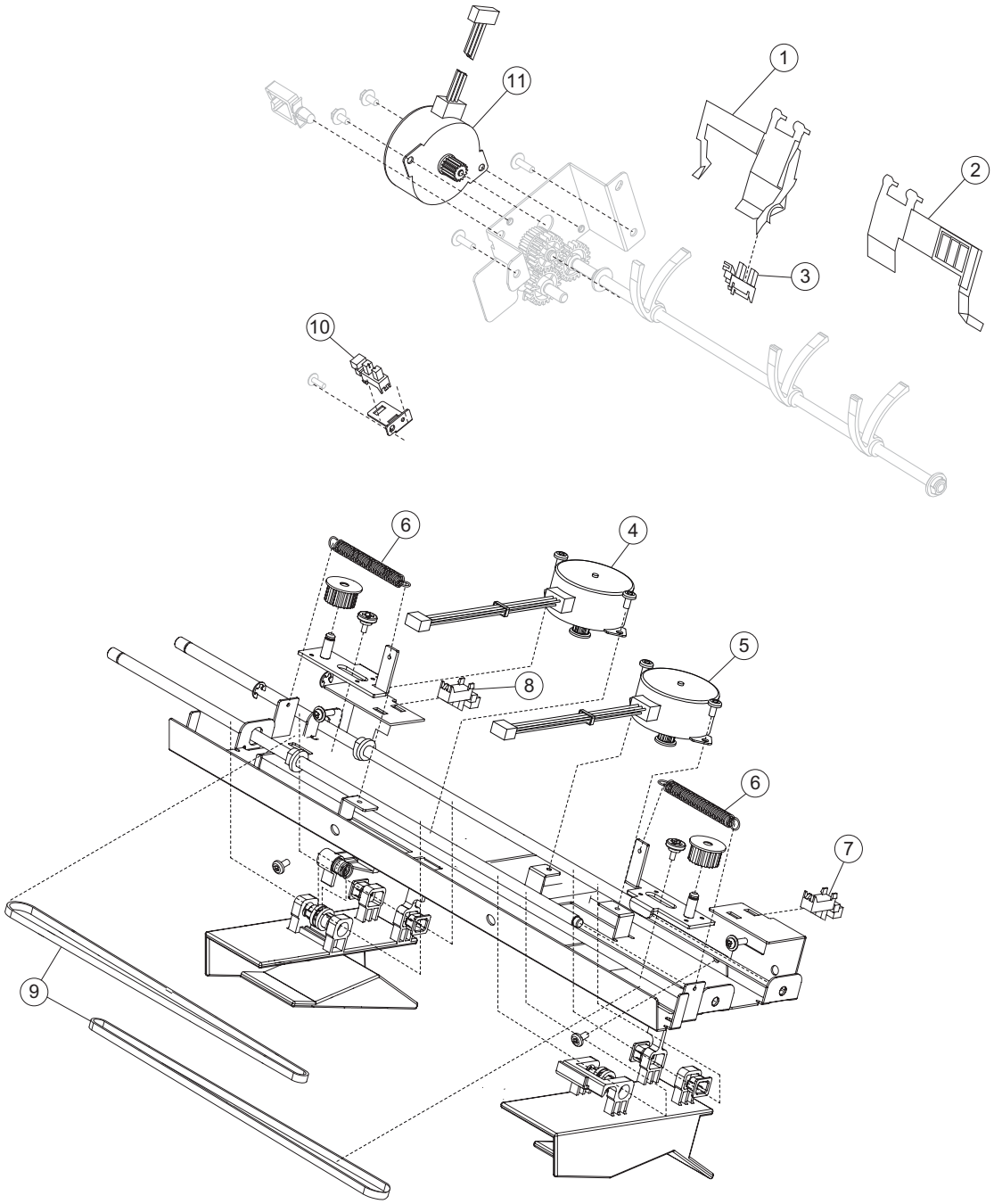
Assembly 24: MFP Offset stacker #2



Assembly 24: MFP Offset stacker #2

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4612	1	1	Handle cover
2	40X4613	1	1	Rear door assembly
3	40X4730	1	1	Stapler cover
4	40X4610	1	1	Right cover
5	40X5544	1	1	Sensor (bin full receive)
6	40X4617	1	2	Finisher bin spring
7	40X5545	1	1	Standard output bin LED
8	40X5727	1	1	LED clear lens
9	40X5720	1	1	LED sensor cover
10	40X4618	1	1	Sensor (finisher bin media present)
11	40X4619	1	1	Media output bin extension
12	40X5541	1	1	Media output bin
13	40X4626	1	1	Sensor (bin full send)
14	40X4625	1	1	Stapler/stacker controller card assembly
15	40X5751	1	1	Attach roller
16	40X4609	1	1	Left cover
17	40X4611	1	1	Top cover
18	40X5906	1	1	Sensor (stapler/stacker pass through)

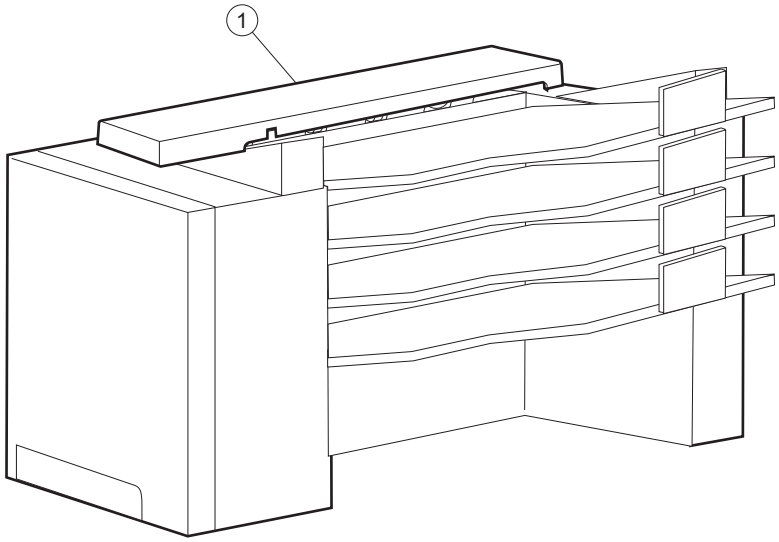
Assembly 25: MFP Offset stacker #3



Assembly 25: MFP Offset stacker #3

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4645	1	1	Media stack flap actuator
2	40X4646	1	1	Media stack flap
3	40X4369	1	1	Sensor (media stack)
4	40X4621	1	1	Left tamper motor assembly
5	40X4622	1	1	Right tamper motor assembly
6	40X4624	1	2	Tamper recoil spring
7	40X4369	1	1	Sensor (tamper HP right)
8	40X4369	1	1	Sensor (tamper HP left)
9	40X4623	1	1	Tamper drive belt
10	40X4369	1	1	Sensor (paddle HP)
11	40X4615	1	1	Paddle drive motor

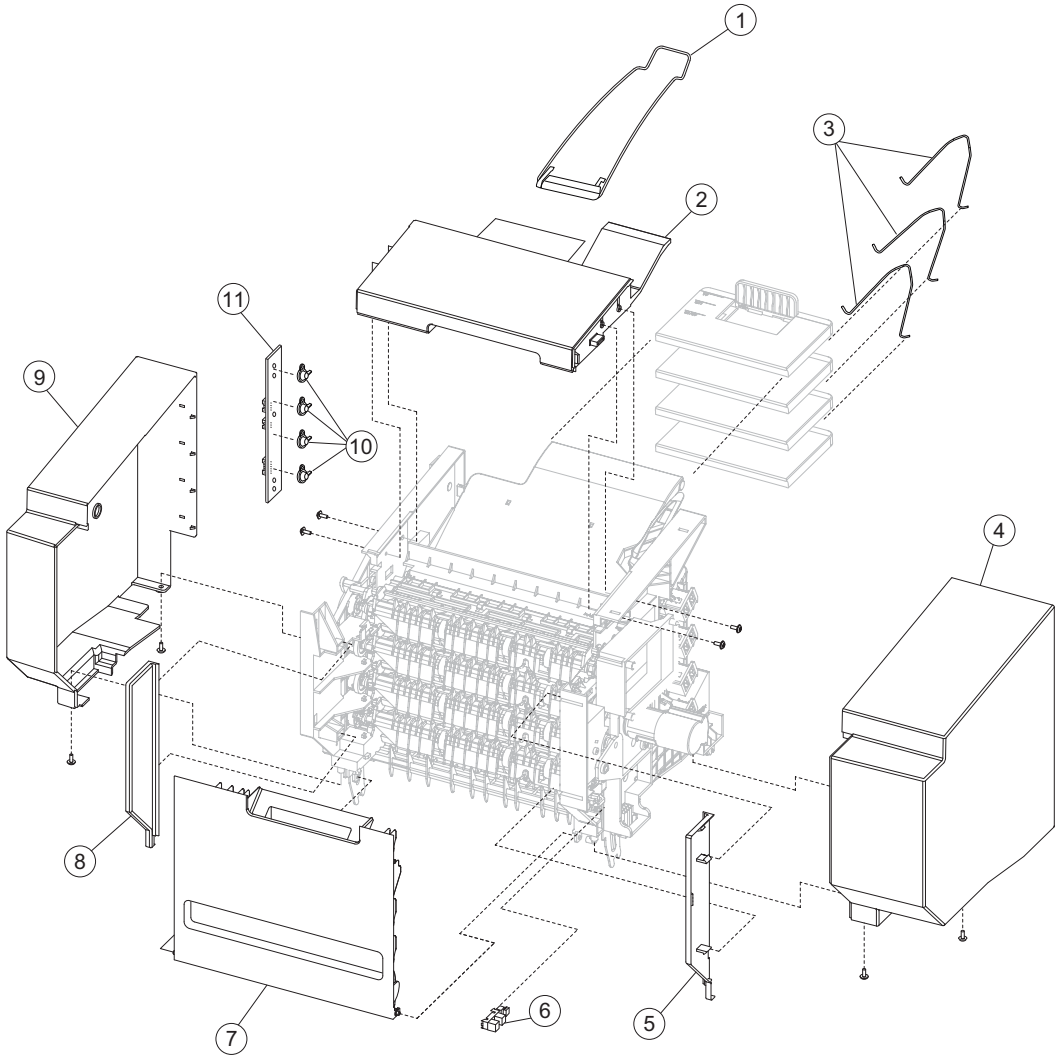
Assembly 26: MFP 4-bin mailbox assembly #1



Assembly 26: MFP 4-bin mailbox assembly #1

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X7024	1	1	MFP 4 bin mailbox assembly (comes completely assembled)

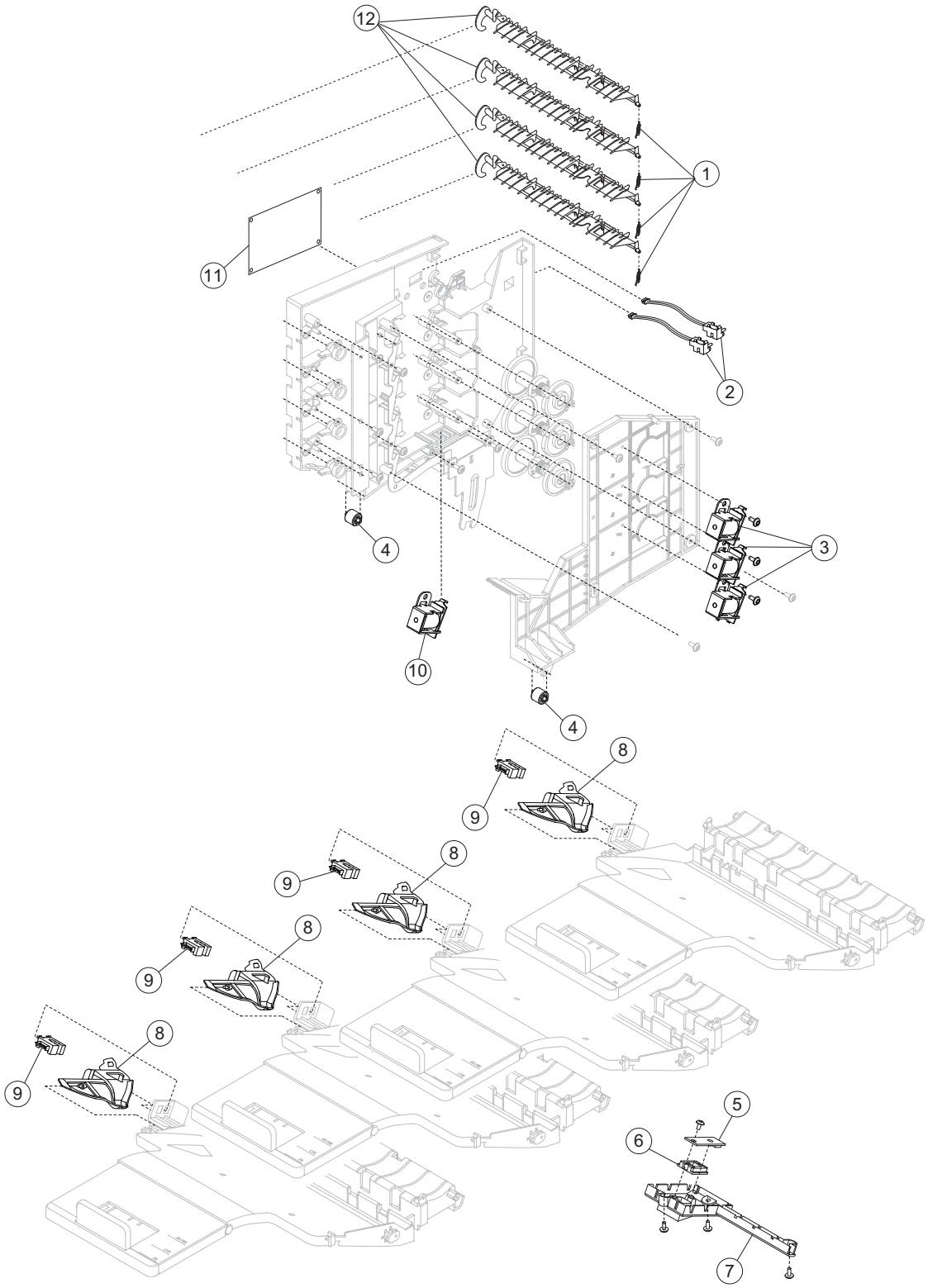
Assembly 27: MFP 4-bin mailbox assembly #2



Assembly 27: MFP 4-bin mailbox assembly #2

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X4644	1	1	Top media bin bail
2	40X4642	1	1	Top cover
3	40X4135	3	1	1st - 3rd media bail
4	40X4640	1	1	Left cover
5	40X4638	1	1	Left rear inner cover
6	40X4369	1	1	Sensor (deflector gate HP)
7	40X4632	1	1	Rear door assembly
8	40X4637	1	1	Right rear inner cover
9	40X4639	1	1	Right cover
10	40X4636	1	1	LED card assembly
11	40X4139	4	1	Media output bin light pipe

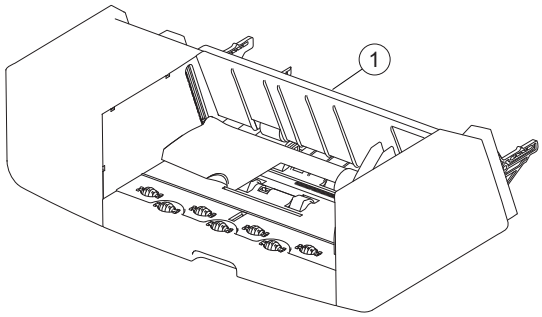
Assembly 28: MFP 4-bin mailbox assembly #3



Assembly 28: MFP 4-bin mailbox assembly #3

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X5750	4	1	Spring
2	40X5728	2	1	Sensor (pass through)
3	40X4635	3	1	Deflector gate solenoid
4	40X5751	1	1	Attach roller
5	40X5545	1	1	Standard output bin LED
6	40X5727	1	1	LED clear lens
7	40X4647	1	1	Output bin LED bracket
8	40X4136	4	1	Media bin full actuator
9	40X4633	4	1	Sensor (media bin full)
10	40X4643	1	1	Transport solenoid
11	40X4634	1	1	4 bin mailbox controller card assembly
12	40X4138	4	1	Media bin deflector

Assembly 29: Envelope feeder



Assembly 29: Envelope feeder

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
1	40X5739	1	1	Envelope feeder (X658 only)

Assembly 30: Miscellaneous

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
NS	7372935	1	1	Relocation kit (X651, X652, and X654)
NS	7377730	1	1	Relocation kit (X658)
NS	40X4723	1	1	Printer maintenance kit (100 V type 1 fuser)
NS	40X4724	1	1	Printer maintenance kit (110 V type 1 fuser)
NS	40X4765	1	1	Printer maintenance kit (220 V type 1 fuser)
NS	40X4766	1	1	Printer maintenance kit (100 V type 2 fuser)
NS	40X4767	1	1	Printer maintenance kit (110 V type 2 fuser)
NS	40X4768	1	1	Printer maintenance kit (220 V type 2 fuser)
NS	40X4769	1	1	ADF maintenance kit
NS	40X5301	1	1	256 MB SO-DIMM
NS	40X5302	1	1	512MB SO-DIMM
NS	40X5303	1	1	1GB (1024MB) SO-DIMM
NS	40X5704	1	1	256MB user flash memory card
NS	40X5057	1	1	TAA hard drive assembly with connector
NS	40X5952	1	1	LXK PrintCryption card
NS	40X5969	1	1	Korean font card
NS	40X5970	1	1	Simplified Chinese font card
NS	40X5971	1	1	Traditional Chines font card
NS	40X5972	1	1	Japanese font card
NS	40X5953	1	1	Bar code/forms card
NS	40X5958	1	1	IPDS card (available w/EMEA, AP, LAD
NS	40X6200	1	1	Forms card with P269UBC code for UBOC
NS	40X1556	1	1	Parts pack, ISP thumbscrew and standoff
NS	40X5316	1	1	ISP interface cable assembly
NS	40X4826	1	1	MarkNet N8120 gigabit ethernet print server
NS	40X4827	1	1	MarkNet N8130 fiber ethernet print server
NS	40X5038	1	1	MarkNet N8150 802.11n wireless print server (US/Americas)
NS	40X5039	1	1	MarkNet N8150 802.11n wireless print server (WW, except US/Americas)
NS	56P2129	1	1	LXK N4000e print server
NS	56P2744	1	1	LXK N4050e (1 port USB) wireless 802.11g (US/Americas)
NS	40X1593	1	1	LXK MarkNet N7002e (1 port parallel) ethernet 10baseT/100BaseTX
NS	40X1594	1	1	LXK MarkNet N7002e (1 port parallel) ethernet 10base T/100Base TX
NS	40X1592	1	1	LXK MarkNet N7020e (4 port USB) ethernet 10base T/100Base TX/ 1000BaseT
NS	40X4819	1	1	RS-232C serial interface card
NS	40X4823	1	1	Parallel 1284-B interface card
NS	40X1367	1	1	10-Foot parallel printer cable
NS	40X1368	1	1	2-Meter USB printer cable
NS	40X4821	1	1	MarkNet N8110-v.34 fax card
NS	40X5606	1	1	Fax interface card assembly
NS	40X2665	1	1	Fuser oil wiper (black housing)
NS	40X2666	1	1	Fuser wax wiper (gray housing)

Assembly 30 (continued): Miscellaneous

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
NS	40X1462	1	1	Locking universal media drawer with tray, 200 sheet (excluding X658)
NS	40X1463	1	1	Locking media drawer with tray, 550 sheet (excluding X658)
NS	40X1464	1	1	Locking universal media drawer with tray, 400 sheet (excluding X658)

Assembly 31: Power cords

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
NS	40X0269	1	1	Power cord LV, USA & Canada, Latin America
NS	40X0288	1	1	Power cord HV, Argentina
NS	40X0273	1	1	Power cord HV, Chile, Uruguay
NS	40X3141	1	1	Power cord HV, Paraguay, Austria, Belgium, France, Germany, Italy, Netherlands, Bluemark, Czech & Solvic countries, Greece, Hungary, Medmark 1, Medmark 2, Arabic, Poland, Russia, CIS, Spain, Portugal, & Ireland
NS	40X4596	1	1	Power cord LV, Brazil PPB kits
NS	40X0271	1	1	Power cord HV, Asian, Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka, Tibet, & Hong Kong
NS	40X0301	1	1	Power cord HV, Australia & New Zealand
NS	40X3609	1	1	Power cord 100 V, Japan
NS	40X1792	1	1	Power cord, HV, Korea
NS	40X0303	1	1	Power cord, HV PRC
NS	40X1791	1	1	Power cord LV, Taiwan
NS	40X1774	1	1	Power cord HV, Denmark, Finland, Norway, Sweden
NS	40X0275	1	1	Power cord, HV, Israel
NS	40X1773	1	1	Power cord HV, South Africa, Namibia, Lesotho, Botswana & Pakistan
NS	40X1772	1	1	Power cord HV, Switzerland

Assembly 32: Universal trays and accessories

Asm-Index	Part number	Units/mach	Units/kit or pkg	Description
NS	40X5857	1	1	Universal media drawer with tray, 200 sheet (X651, X652, X654, and X656)
NS	40X5858	1	1	Universal media tray, 200 sheet (X651, X652, X654, and X656)
NS	40X5859	1	1	Universal media drawer with tray, 400 sheet (X651, X652, X654, and X656)
NS	40X5860	1	1	Universal media tray, 400 sheet (X651, X652, X654, and X656)
NS	40X7001	1	1	Wear strips, smooth 250 sheet
NS	40X7002	1	1	Wear strips, dimpled 250 sheet
NS	99A1206	1	1	Wear strips, 3 row dimpled 250 sheet
NS	40X2786	1	1	Wear strips, 4 row dimpled 250 sheet
NS	40X7003	1	1	Wear strips, 3 row dimpled 550 sheet
NS	40X7004	1	1	Wear strips, dinky 550 sheet
NS	40X2787	1	1	Wear strips, 3 row dimpled 550 sheet
NS	40X2788	1	1	Wear strips, 4 row dimpled 550 sheet
NS	40X7009	1	1	250 sheet tray replacement wear strip kit
NS	40X7010	1	1	550 sheet tray replacement wear strip kit
NS	40X0392	1	1	Klear screen wipe

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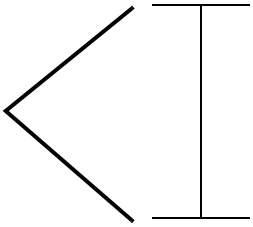
99A1206 Wear strips, 3 row dimpled 250 sheet ---- 7-63

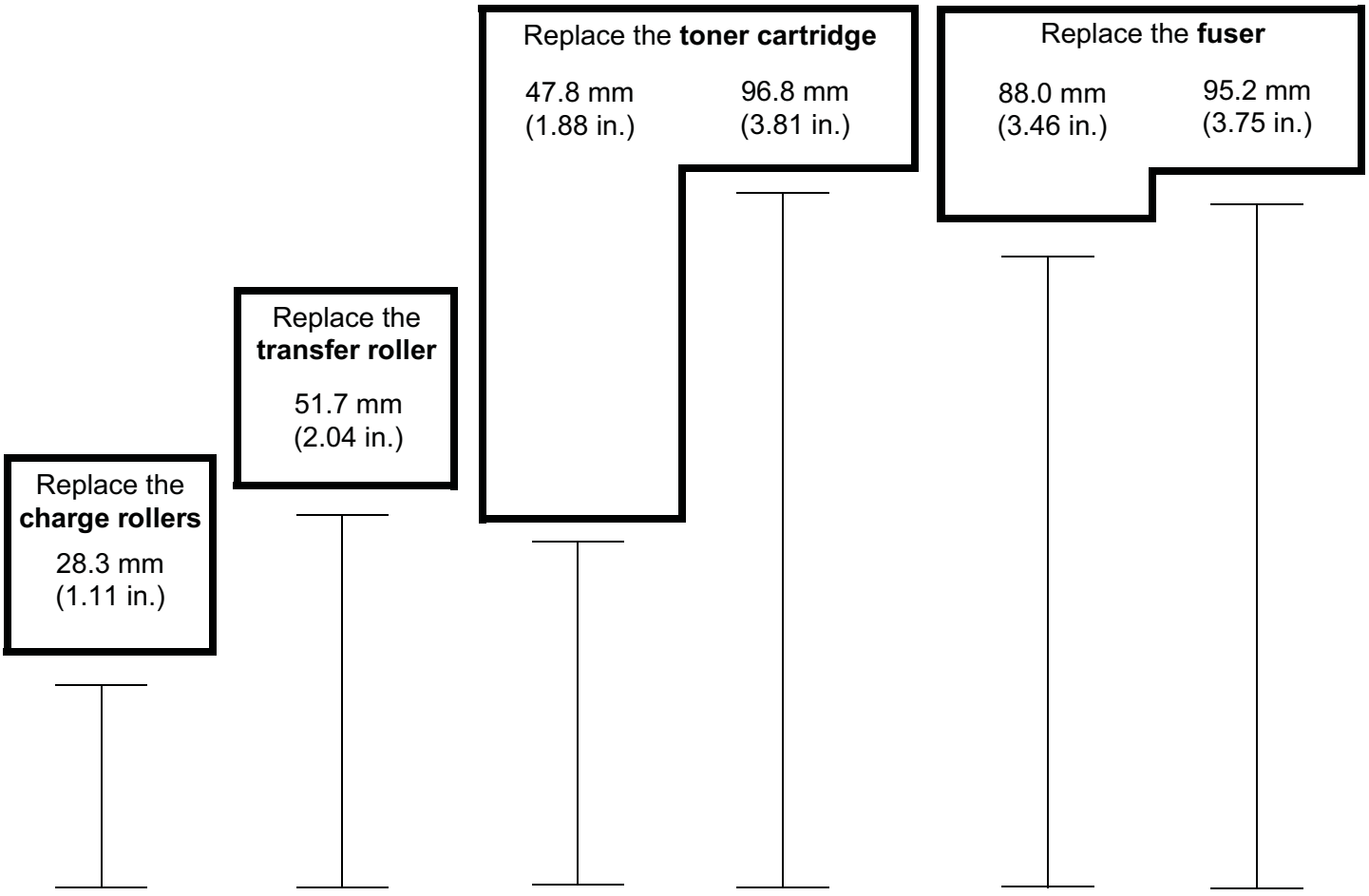
Print defects guide

Match a set of repeating defects on a print job to the marks on one of the vertical lines. The line that best matches the defects on the print job indicates which particular part may be causing the defect.

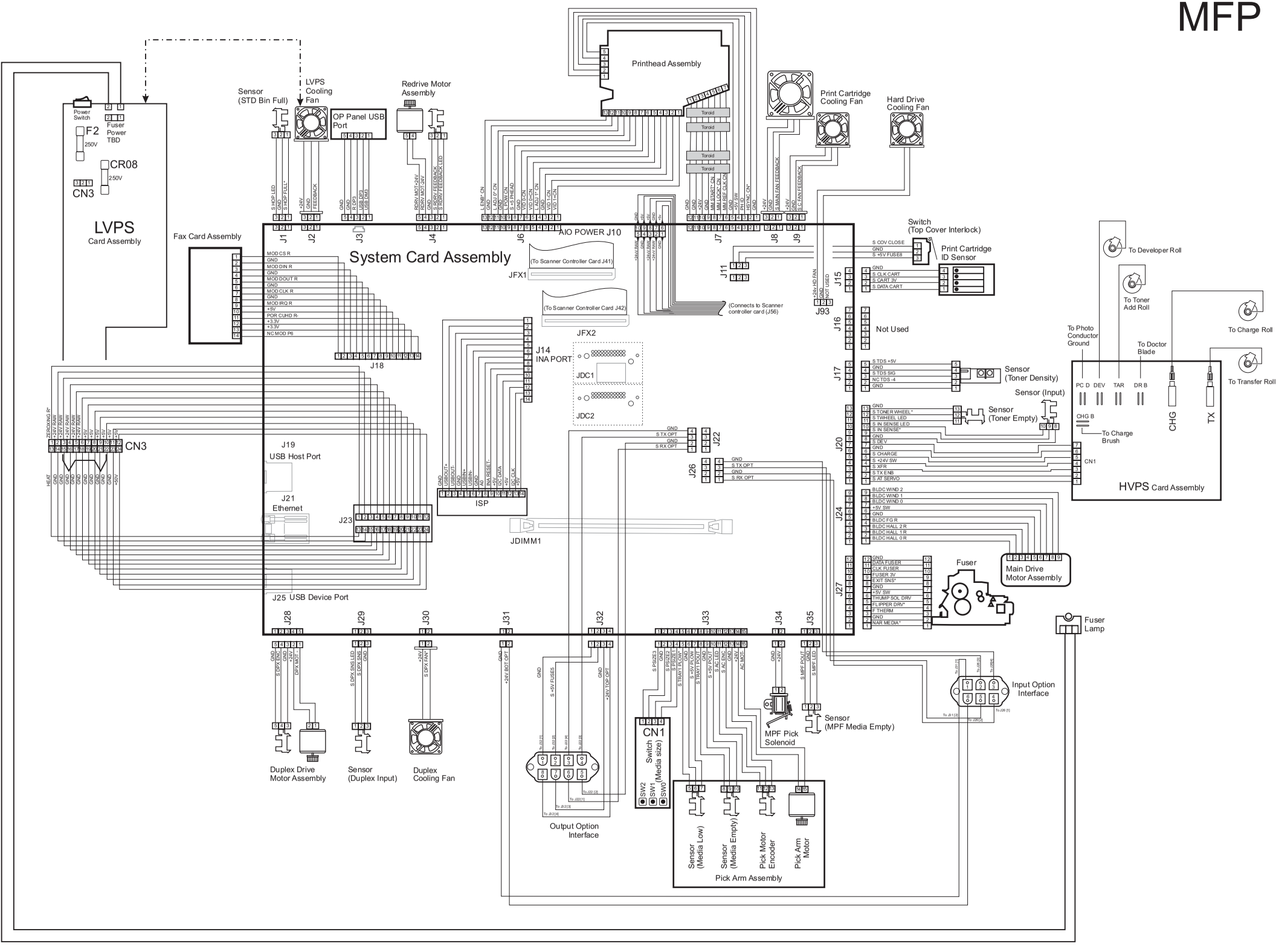
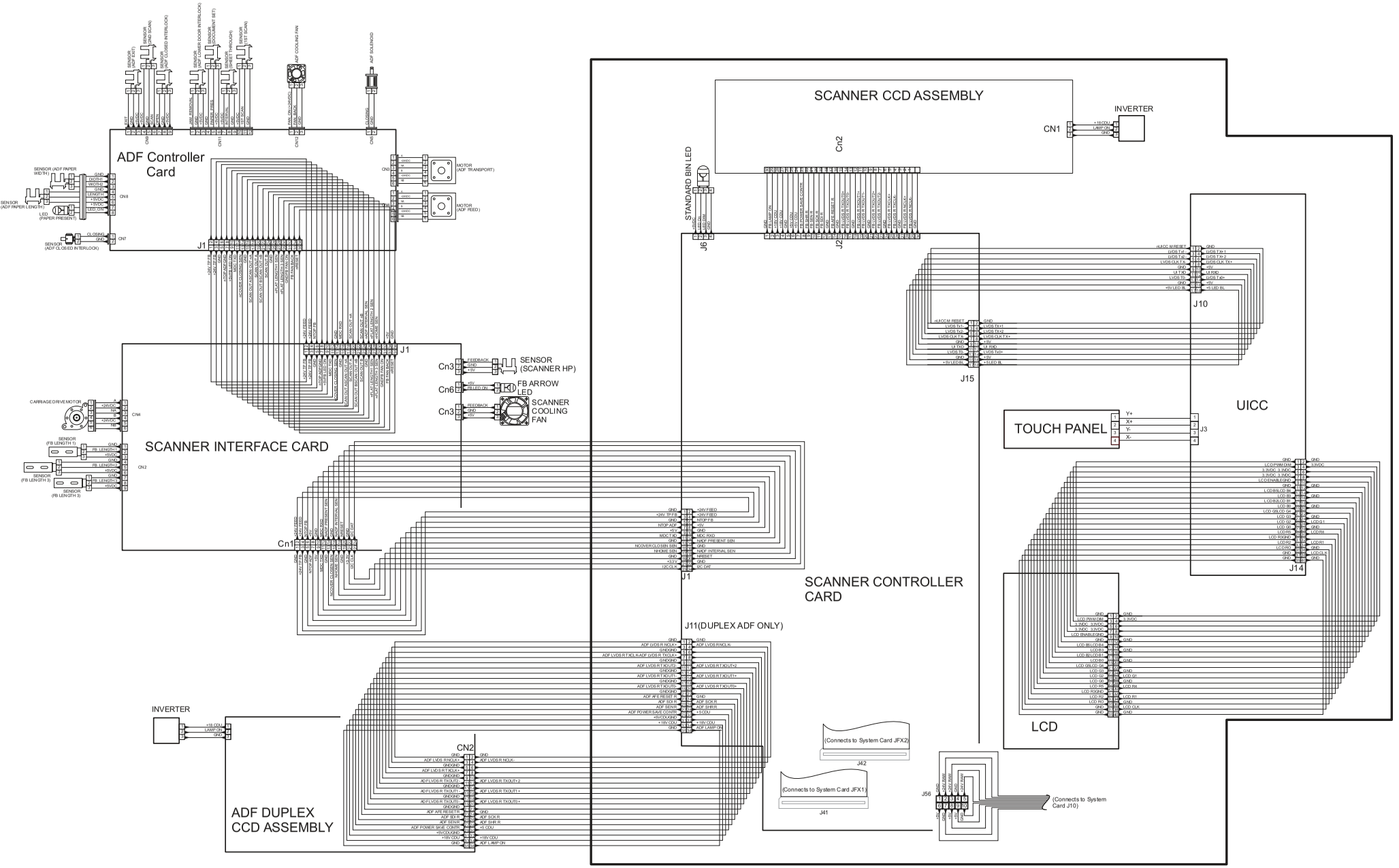
For example, the distance between these two marks represents a repeating defect that occurs every 28.3 mm (1.11 in.), which means the charge rollers may need to be replaced.



Note: If the defect appears on the printed side of a single-sided print job, replace the **toner cartridge** before replacing the **fuser.**



MFP


Power Switch
F2
250V
Fuser Power TBD
CR08
250V
CN3
LVPS
Card Assembly
Sensor (STD Bin Full)
LVPS Cooling Fan
OP Panel USB Port
Redrive Motor Assembly
Printhead Assembly
Print Cartridge Cooling Fan
Hard Drive Cooling Fan
Fax Card Assembly
System Card Assembly
AIO POWER J10
J1
J2
J3
J4
J6
J7
J8
J9
J11
J93
J16
J17
J20
J24
J27
J18
J14
INA PORT
JDC1
JDC2
JFX1
JFX2
(To Scanner Controller Card J41)
(To Scanner Controller Card J42)
(Connects to Scanner controller card (J56)
Switch (Top Cover Interlock)
Print Cartridge ID Sensor
Not Used
Sensor (Toner Density)
Sensor (Input)
Sensor (Toner Empty)
HVPS Card Assembly
To Developer Roll
To Toner Add Roll
To Photo Conductor Ground
To Doctor Blade
To Charge Roll
To Transfer Roll
To Charge Brush
PC D
DEV
TAR
DR B
CHG B
CHG
TX
CN1
J19
USB Host Port
J21
Ethernet
J23
J25 USB Device Port
ISP
JDIMM1
J22
J26
Fuser
Main Drive Motor Assembly
Fuser Lamp
J28
J29
J30
J31
J32
J33
J34
J35
Duplex Drive Motor Assembly
Sensor (Duplex Input)
Duplex Cooling Fan
Output Option Interface
Input Option Interface
MPF Pick Solenoid
Sensor (MPF Media Empty)
Switch (Media size)
SW2
SW1
SW0
Sensor (Media Low)
Sensor (Media Empty)
Pick Motor Encoder
Pick Arm Motor
Pick Arm Assembly

MFP SCANNER/ADF